THE LANCET.

VOL. II.] LONDON, SATURDAY, JULY 26. [1828-8.

LECTURES

ON THE

THEORY AND PRACTICE OF MIDWIFERY.

DELIVERED AT GUY'S HOSPITAL, BY

DR. BLUNDELL.

LECTURE XXXII.

THE Lecture of yesterday morning, Gentlemen, was, I think, closed with an enumeration of the leading remedies of convulsions; but we must not forget to remark, that there are other means of subordinate importance, of which we ought not to lose sight in the treatment of this formidable malady. *Leeches* to the temples are generally innocent, and if we apply 15 or 20, they may, perhaps, sometimes be productive of considerable benefit. A fit of convulsions, with *cupping-glasses* upon the patient, would be very incommodious; if you choose, however, cupping may be tried between the paroxysms. If the disease be obstinate or pressing, the head may be shaved, more especially if the scalp be hot; but an operation of this kind need not be wantonly recommended. Of blisters to the legs I have made but little use; in the opinion of some, the practice is of real efficacy, and, therefore, should not be forgotten. *Rubefacients*, especially of *mustard*, to the feet, and more particularly where the woman is comatose, should not be neglected. The *warm bath* I should more frequently recommend, if it could be employed in private practice, as commodiously as in puerperal hospitals. By Denman it is, I think, remarked, that some women have remained free from fits during immersion only, and that they have actually been delivered in the water. *Nervous medicines*, as castor, camphor, æther, valerian, opium, or the like, are not to be overlooked. If opium determine to the head, it will probably do mischief; if it open the cutaneous pores, and diffusively support the circulation, advantage may be expected from it. Dr. Hamilton has strongly recommended camphor. If the tongue be thrust at intervals between the teeth, it should be secured by interposing a cork enclosed in cloth, as recommended by Burns.

Of the Prevention of Convulsions, and Complicated Labours, with Tumours in the Pelvis.

The convulsive paroxysms are sometimes making their attack without any very obvious premonitory symptoms, and yet in other cases, and more especially as observed before, when the disease assails the patient during pregnancy, these precursory indications may be now and then observed. Shudderings of the muscles generally, flushings, and fulness of the face, throbbing of the carotids, heat of the scalp, very severe and splitting pains of the head, and a sensation, perhaps, as if the cerebral mass were too large for its receptacle; these, with weight in the head, impeded utterance, altered vision, numbnesses, or the like, are some of the more striking symptoms by which the fits are preceded.

When these symptoms occur, and you are led to expect that the patient will be seized with convulsions, it comes to be an important consideration, whether there are any *preventive means* by which the fit may be intercepted? *Bleeding*, I have observed already, is one of the most powerful antispasmodic remedies when the fits are begun, and it deserves, therefore, a fair trial as a preventive. Blood may be taken from the nape of the neck, from the external jugular vein, or from the arm to the amount of 12, 14, or 16 ounces, more or less, according to the symptoms, it not being necessary to bleed so copiously in this preventive treatment, as where it is your object to subdue an attack which is already commenced. The readiest mode, no doubt, of removing the blood, is by means of the lancet, and in ordinary cases this may be preferred; but if you are disposed to take the blood from the nape of the neck, cupping glasses are to be employed, or a large number of leeches may be applied to the temples. The object of this bleeding is not merely to diminish plethora, but to reduce the action of the

vessels of the head; the carotid arteries, I mean, and the vertebrals; and I incline to the persuasion, that the action of the vessels is reduced more effectually by a given quantity of blood abstracted with leeches, than it would be by the same quantity of blood abstracted by means of the lancet or the cupping glass.

Of great importance, also, it is, where you expect an attack of convulsions, that you clear thoroughly the alimentary tube. After bleeding, ipecacuanha, I conceive, or any other mild emetic, may be given with advantage; and more especially if you believe there is any offensive accumulation in the bowels, by means of purgatives or injections, you should thoroughly cleanse the canal. Castor oil, senna and salts, rhubarb, or calomel, may be given, and if you wish the medicine to operate with promptitude, salts and senna. Twofold is the advantage of this purification of the tube by means of purgatives; you cool the system somewhat, more particularly if you employ the saline preparations, and this tends to reduce the vascular action; add to which, that by clearing the tube you are, perhaps, carrying out of the system something that is irritative, and calculated to keep up the vascular movement, together with the determination of blood on the head. Every one who, like myself, has experienced a fit of dyspepsia, must know, that by it the severest headach may be produced, and every one who has made the diseases of children the subject of his attention, must be aware how close is the connexion between a disordered state of the bowels and the state of the head. After clearing thoroughly the alimentary canal, and abstracting that portion of blood which you may deem expedient, you may put your patient into a warm bath, a remedy more easily managed, where the patient has not yet been attacked with a fit. Get a large vessel, let the water be heated to 97° of Farenheit's thermometer, (the cold and warm water being well mixed with each other,) and there let the patient remain ten, fifteen, or twenty minutes, according to the soothing effect produced. Experience has shown the use of warm baths in convulsions, whether of women or young children; nor is theory wanting to their recommendation, for the bath seems well calculated to relieve the head, inasmuch as it operates as a diffusive vascular stimulus, and produces perspiration.

For the prevention of convulsions, these, then, are the remedies on which I should myself mainly rely, the moderate abstraction of blood, the clearance of the alimentary tube, and the putting the patient under the bland and soothing influences of the warm bath. Nervous medicines are advised, and must not be forgotten, though Denman says, and I think, truly, that they are rather given from custom, perhaps, than in the expectation of any solid advantage to be derived from them. Opium and camphor have been recommended; camphor strongly. Of opium I have given the opinion which I entertain in the present state of my knowledge; if it equalize the circulation, benefit may be expected; if it stimulate the brain topically—injury.

If a woman have had two or three attacks at some former period, so that the premonitory symptoms are more than usually alarming; it might be worth considering, whether, in a case so pressing, delivery ought to be accelerated. Of turning the child by force, you must not even think; violence, in midwifery, is the unpardonable sin which may not be forgiven; but if you can carry the fingers to the mouth and neck of the womb, so as to touch the membranes, these may be punctured with a sound bluntly pointed, and in four-and-twenty, or six-and-thirty, hours afterwards, the ovum would most probably be expelled. My own opinion with respect to delivery, in the way of *preventive* treatment, is this: if bleedings, purgings, and the warm-bath, subdue the symptoms, do not, as a general practice, interfere with the uterus; but if you have a case where the ordinary means fail, and where the convulsive attack is in a high degree probable, then it becomes justifiable to puncture the membranes, and discharging the liquor, an operation not perhaps without its evils, but still very simple, and, as far as the woman is concerned, safe.

When the management of this disease was less understood than it is at present, and more especially when it was customary to deliver by force—*di meliora*,—under convulsions, death, both of the mother and child were by no means infrequent, whence frequent morbid dissections were made. Now, it is well worth your notice, that, in the great majority of those fatal cases which have been submitted to inspection, there has been no observable effusion of blood, whether upon the surface of the brain, or in its substance. Effusions of water I believe, from my own observations, are in these cases more common; and if a woman have a repetition of fits, I should expect to find water on the surface of the brain, between the meninges, not to omit the ventricles of the brain, and the spinal theca. In the general, women seem to die at a time when there is simply a *congestion* of blood, which remains in the cerebral vessels, or with congestion and aqueous effusion conjoined; and very satisfactory it is to know this. If a large quantity of blood is poured into the brain, or upon it, in general it is all over with the patient; now

and then, perhaps, by spontaneous process, the patient may recover, but I am convinced that *medical* treatment can then avail but little; if, however, the blood be still contained, as it usually is, in the vessels; the bleeding relieving this surcharge, you may remove that pressure which is, I conceive, a more immediate cause of the disease, and thus perhaps you may save the patient. Denman says, that in most of the cases which he has met with, he found the heart unusually flaccid, and without a single drop of blood in the auricle or ventricles; adding, too, that in other cases, many large livid spots have been seen on the surface of the body. A case was reported to him by Hewson, in which, after death, much blood was found upon the brain; and another case was reported by Hooper, in which the patient died in eight hours after the fit, the effused blood weighing, I think, three or four ounces: I speak from recollection.

Having given you the treatment, and the characteristic history of this disease, I shall not enter largely into its causes; and the rather, because disquisitions of this kind are usually involved in night and chaos, but a few remarks I will venture. Should you ask me, then, in what manner these convulsions are produced, I should reply, that the more probable and immediate cause of them is a pressure on the brain, and perhaps on the spinal marrow also. This pressure sometimes results from the effusion of blood, still more frequently from effused water, and, most frequently of all, from mere congestion. If you were to ask me how is it that these congestions of blood are produced, I should reply, not in most instances by general plethora, but rather from an increased action of the cerebral vascular system, the carotid arteries, and perhaps the vertebral; indeed, in the adult, if we examine the carotids, we may sometimes see the pulse beating and jumping in the neck. Whether men are but children of a larger growth, I do not stay to inquire, but I am sure that *women* are—at least in constitution. Now, that the convulsive and hydrocephalic affections of young children are connected with an increased action of the cerebral vessels, is certain. In young children, by placing a finger on the fontanel, you may examine the cerebral circulation, more readily than the circulation in the wrist. Now where there is a disposition to convulsions, or hydrocephalus in infancy, on putting your fingers upon the fontanels, you will often find that the brain is beating most strongly; nor is it necessary to touch it for this purpose; for if we take off the cap when the vessels are in action, the pulsatory play of the brain may be seen distinctly by the eye. An increased action of the vessels, produces an accumulation of blood in the genitals, in the wattles of birds, and in the breasts of women during suckling; and these points considered, it is not, I think, improbable, that in these convulsions and convulsive propensities of women, a cerebral congestion, with pressure and irregular circulation, and an increased action of the carotid and vertebral arteries, have a large share in producing the disease. In support of these opinions, respecting the more immediate nature of puerperal convulsions, the following symptoms may be also stated: the flushing of the face, the throbbing of the carotids, the enlargement of the features, the heat of the scalp, not to mention other symptoms which are premonitory of the disease, and which seem to indicate the afflux of blood upon the head. Hence, too, the help derived from large bleedings, especially from the cephalic vessels.

In concluding my remarks on the causes of convulsions, I may add an observation which I once accidentally made on the dog, and which seems to me well-fitted to illustrate the cause of those affections. Anxious to know, in the dog, what are the utmost powers of circulation by anastomosis, for this purpose I contrived an instrument, by which, in this animal, I could close or open the thoracic aorta at pleasure, when I found, among other observations, the following facts worth notice:—If I bled the dog before I tied the aorta, he lived for some hours; but if I secured the artery without a previous bleeding, he had an attack of convulsions resembling very much the puerperal convulsions of women, and this attack could be relieved or renewed by opening or closing the aorta. When I opened the dogs, I discovered, on the surface of the brain, a few small clots of effused blood not much bigger than a pea. And the explanation of the phenomenon was this: when the aorta was tied, it collapsed below the ligature, and emptied itself into the *vena cava*, then the blood came in large quantities from the cava through the right side of the heart, and the lungs into the left side of the heart, and the aorta, so as to reach the ligature by which its further progress was intercepted, so that it could not make its entrance into the parts below, or behind the thorax. As in convulsions, therefore, so here the blood accumulated in the upper or anterior parts of the system, and convulsions and death were the result.

The prognosis of the convulsions is rather favourable than otherwise; certainly it is a most alarming disease, and, if blood be effused on the brain, death is very probable, not to say desirable; if, however, you are early in your operations, and treat it actively upon the principles I have laid down, I think you may generally subdue it.

Of Apoplexy and Sudden Death.

In the end of gestation, patients are sometimes attacked with apoplexy, in which condition they may lie for hours, or days, recovering gradually afterwards, or ultimately sinking. Under apoplectic attacks, I believe, labour does not so readily come on as under the convulsive attacks; nevertheless, I would advise you to examine the os uteri occasionally, and to take care that the child be not born unperceived. In its nature, though there are no spasms, I look upon this disease as strictly, as analogous to the convulsions of which I have been speaking, and I would, therefore, treat it upon the same principle. I suppose it is produced, in good measure, by congestion of blood in the head. Sudden deaths sometimes occur during delivery; their cause may not be always intelligible, even on dissection: apoplexy—rupture of the heart, or large vessels—and bleeding into the womb, are to be suspected.

Of Labours complicated with Tumours in the Pelvis.

It does not frequently happen, that delivery is complicated with large tumours in the pelvis, an accident which is frequently fatal. We do, however, sometimes find that these tumours concur with delivery; and when met with they may be commodiously divided into two kinds, those I mean which are *recto-vaginal*, being placed between the rectum and vagina, as the term implies, and those again which are otherwise situated. It sometimes happens, that a large exostosis grows upon the sacrum, an accident which is not common, though occasionally large quantities of bone are formed upon this part. A case of this kind is to be managed precisely upon the same principles as those distortions, or contractions, of the pelvis which we considered under the head of laborious labour, and I dismiss them, therefore, without further remark. In other cases, we find that a *calculus* is lying in the bladder, and this, perhaps, of no small size. Mr. Tipping, of Tooting, once showed me a urinary calculus considerably larger than a goose-egg. Urinary calculi, concurrent with delivery, are, however, by no means of frequent occurrence; if known before delivery, they ought to be taken away, as likely to obstruct the delivery. We know that calculi may be removed either by cutting into the front or back of the neck of the bladder, or by dividing the urethra; but, in cases of this kind, removal by mere dilatation would be desirable. And here I may be permitted to remark, that this practice, now generally received, of removing the calculus by dilatation, has always been recommended from this chair; it was strongly advised by my predecessor, Dr. Haighton, and year after year it has been as strongly recommended by myself. Why did not some of you, who are surgeons, take the hint, and get the honour of introducing the operation into use. Sir Astley Cooper, in whose mind, I believe, the idea was of native growth, though anticipated, needed no addition to his large and well-earned fame. It has always appeared to me, that the brevity of the female urethra, and the exceeding laxity of it, were extremely favourable to dilatations of this kind, nor has the event falsified the opinion. But what is to be done if the calculus remain undiscovered in the bladder till parturition begins? Why, if the calculus be small, we may allow the head to pass, the accoucheur not meddling, as meddlesome midwifery is bad; but if the calculus be large, and likely to obstruct the passage of the head, then it would be advisable (if practicable) to urge the stone away from the brim of the pelvis, in the way here demonstrated.

If, again, a calculus obstructing delivery could not be got rid of in this way, it would then, I conceive, become necessary to open the head or the bladder, or the urethra, and of these practices, probably, the most advisable would be the removal of the calculus.

It sometimes happens, again, that you have tumours growing to the *sacro-sciatic ligaments*, and Dr. Drew has recorded two cases of this sort, for which I am indebted to a very able obstetric writer, I mean Burns. In one of these cases a large tumour grew on the sciatic ligaments, completely obstructing the outlet of the pelvis. In this case, new to the accoucheur, nothing was done, and both the mother and child died. In the other case there was a tumour on the sacro-sciatic ligaments, weighing about two pounds and a half, and Dr. Drew, considering the tragical event of the former, thought it his duty to extirpate by cautious dissection, when both the child and mother were saved. In these cases, then, the proper practice is obvious. And thus much, then, respecting the tumours in the pelvis, of rarer occurrence, arising from exostosis of the sacrum, calculus of the urinary bladder, or large indurated growths upon the sacro-sciatic ligaments.

But I must now observe to you, that there is another tumour in the pelvis, certainly more common in its occurrence, and perhaps more dangerous in its effects, and this is the recto-vaginal, the tumour which takes its place between the vagina and the rectum, and which may arise from various causes. Between the vagina and the rectum, water will sometimes accumulate, (as in cases which I have examined in the other hospital) forming large swellings there; these

pretty readily yield under pressure. Sometimes, again, the intestines become interposed between the vagina and the rectum; and sometimes, though not frequently, the lymphatic glands, I suspect, enlarge at this part. Most commonly, however, nor let this be forgotten, when these recto-vaginal tumours form at all, they form in consequence of an enlargement of the ovarium; in nine cases of ten the enlargement is of this kind. These ovarian enlargements are not uncommonly the result of incipient dropsy; they may also be occasioned by scirrhus, or by a formation within the ovary of parts of the fœtus, as teeth, bones, pulp, quantities of hair, or the like. Not to dwell on these niceties, however, it may be observed, that in a view to practice, ovarian tumours may be divided into two varieties, the solid, I mean, and those which contain pulp, or water; and it is said, that with the ovary a fold of intestine may descend, so as to form a compound enlargement, partly ovarian, and partly gaseous and intestinal. Well, I will suppose that you are called to a case of recto-vaginal tumour; and that, upon making your examination, you find the outlet of the pelvis closed, the vagina lying before the tumour, and the rectum behind it, what is to be done here? If you are called to the labour early, before the child's head is forced down into the upper part of the pelvis, as those tumours do not, I think, in general, adhere firmly, or, indeed, do not adhere at all by inflammatory cohesion, you may sometimes succeed by urging them above the brim of the pelvis; and of all the modes to be resorted to, this, when practicable, is the best. But what if this attempt fail? nor is failure improbable. Why, if the tumour be yielding, and its bulk be small, give a fair trial to those natural efforts, which the good accoucheur never hastily distrusts, and the head perhaps may work its way through the pelvis, the tumour collapsing or bursting, or gradually ascending above the brim. Again, if you think that there is no reasonable hope that the head will work a way for itself, there is yet a third practice to which you may have recourse, I mean the emptying of the tumour. If the tumour be solid, of course the practice is inadmissible; but if it is filled with gelatinous matter, or with water, in such cases an evacuation of it may be effected. To open the tumour from the rectum, we have been advised; but I conceive the vaginal opening is preferable, though I know the rectum will bear a good deal of violence without fatal result. It has been recommended too to lay the tumour open by the trochar and canula, and if water is pretty certain, why you may proceed in this manner—introducing the instrument at the most depending part of the tumour, and recollecting that a fold of intestine may lie in the way, should you meet with water, then you may readily evacuate it, and should the substance which escapes be of viscid consistency, by little and little you may enlarge the opening with a scalpel, so as to give a broader vent. Should it be doubted whether the swelling be solid, or filled with water or viscid matter, you may cautiously cut down with the scalpel till the point is decided.

Here, then, are the three leading practices which the recto-vaginal tumours admit; the pushing the tumour above the brim of the pelvis, the suffering the head to work its way spontaneously, and the opening of the tumour, whether by puncture or incision. The practice of laying open the head in recto-vaginal tumours, I believe to be bad, because, after this is accomplished, if the tumour be moderately large, you may still be unable to get it away. We have been advised further, and this measure may be sometimes necessary, to lay open the head, and the tumour too. In general, if the tumour is encysted, I should hope, that to lay open its cavity, would supersede the necessity of the use of that formidable instrument the perforator. The application of the forceps in these cases, is an excellent topic of obstetric chit-chat; but unless the tumour be exceedingly small, you may scarcely hope to accomplish the delivery by the use of this instrument. If you want to kill your patient, turn the child by all means; cram your hand up into the vagina, lacerate the womb, haul down the legs, tear the head off the body, and then perform the Cæsarian operation to extricate the head from the womb. This is coarse language, but the practice is coarser.

It has been advised in some of those cases, to perform the Cæsarian operation; and I do believe, that in some instances of recto-vaginal tumour, the Cæsarian operation, dangerous as it is, might be the safest proceeding. Still, however, I closely adhere to the general principle of British midwifery, that the Cæsarian operation, in the present dangerous modes of performing it, at least, ought never to be attempted, if delivery, however difficult, may be accomplished by the natural passage; because, unless we adhered to this rule, there would, I fear, be no end to the cases in which the operation would be needlessly performed. By Dr. Davis it has been judiciously observed, that if the abdomen were laid open above the pubes, the tumour might, perhaps, be removed from the abdominal cavity, so as to make room for the passage of the child through the pelvis, and to supersede the division of the uterus. For myself, I conceive, that in some cases, perhaps, the tumour might be advantageously

dissected away, by laying open the back of the vagina. Two advantages would result from a measure of this kind—the clearance of the pelvic cavity, I mean, and the liberation of the body from a diseased mass, which, in the progress of its growth, might afterwards destroy the patient. These practices, however, require much previous meditation. The success of Drew's cases is encouraging. Do not lose sight of this hint, remember the dilatation of the urethra. In surgery we must never despair. Yet, beware of rashness.

In fine, then, the principal practices admissible in these cases of pelvic tumour, concurrent with parturition, are the following: the urging of the tumour above the brim of the pelvis, if indeed this can be done with gentleness; the giving a few trials to the natural efforts, and the reduction of the bulk of the intumescence by puncture or incision. Other practices of more dubious utility to be recollected, however, where the former fail us, are those of turning, applying the forceps, laying open the head, in conjunction with puncture of the tumour, the performance of the Cæsarian operation. Extirpation of the tumour, by way of the vagina, may, perhaps, in an improved state of abdominal surgery, prove of valuable use; but till facts have accumulated, it is better to refrain. To conclude.

As the case under consideration is very dangerous, and of vast interest, and as it is not improbable that you may have to contend with it in practice, I have got together a table, in which the result of the different methods of treatment is concisely stated, and which table is the following. One case I know of, in which the tumour was pushed above the brim of the pelvis, both the mother and child recovered. Four cases I know of, in which the tumour was laid open by puncture or incision; in the first of these, the mother recovered with difficulty; in the second, imperfectly; in the third and fourth cases, she died; in one of the cases, about six months after the operation was performed, three of the four children were saved; of eight lives, therefore, five were preserved, and three were lost. Eight cases are come to my knowledge, in which embryotomy was adopted, (this operation, unfortunately, being too easily accomplishable,) in these cases, two of the mothers recovered, one of them imperfectly, and five of them died; of course all the children were lost; of seventeen lives, therefore, three only were preserved, and fourteen were lost, for one was a case of twins. Of turning, I have five recorded cases; in four of them the mothers died, in *all the children*; of ten lives, therefore, one only was preserved, and nine were lost. Of puncture and perforation combined, that is, puncture of the tumour, and perforation of the head, three cases are known to me; in one of these, the mother recovered; in the second, she died; in the third, she sank eighteen months after the operation; all the children were lost; of six lives, one only was preserved. In the second volume of the *Medico-Chirurgical Transactions*, there is an excellent paper on recto-vaginal tumour, by Parke, of Liverpool; and, in the tenth volume of the same work, there is another still more excellent from the pen of Dr. Merriman; and to these papers I am indebted for many of the preceding facts. On reviewing these cases, you draw your own inferences; but we may, I think, safely conclude from them, that unless the tumour can be urged above the brim, to open it is the most desirable practice, unless, indeed, it can be extirpated.

LECTURES ON ANIMAL CHEMISTRY,

BY

PROFESSOR BRANDE.

Delivered at the Royal Institution of Great Britain.

Lecture LI.

On Urine, on Sand or Gravel, and the Composition of Urinary Calculi.

Gentlemen,—The urine is a secretion which takes place from arterial blood in the kidneys, and which differs from all other secretions, in being, in the healthy state of the body, almost always of an acid nature. There do appear to be occasional exceptions to the rule of its being acid, but I believe that healthy urine will generally be found to contain excess of acid. This circumstance has induced some theoretical physicians to imagine, that the secretions of the human body may be presided over by certain electrical energies of the nerves; and inasmuch as the bile is an alkaline secretion, it is said to be presided over by a negative electrical power, and the urine, being an acid secretion, by a positive power; but we know nothing of the electrical nature of the nervous agencies, nor would such an explanation account for the peculiarities of the secretions named.

It becomes very difficult to give any account of the contents of the urine, for two reasons; first, because they are always very complex; and, secondly, because they are

very liable to considerable fluctuation; so that you have the same substances presenting themselves in very varying proportions, and certain substances at one time, not to be found in it at another. At one time, the urine is little else than clear water; and, at other times, it may be a strong alkaline or acid solution. Berzelius has published an analysis of the urine, which, he states, presents a view of the average composition of the human urine; but I must warn you against adopting hastily this, or any accurate analysis as anything like a standard of the composition of this fluid; and I do this, because I observe that physicians and writers on medicine copy the analysis, as if it were strictly the representation of the contents of their urine. This table shows you the results of the analysis of Berzelius. In 1000 parts of healthy urine, he found that there were of

Water	933.00
Urea	30.10
Sulphate of potassa	3.71
Sulphate of soda	3.16
Phosphate of soda	2.94
Muriate of soda	4.45
Phosphate of ammonia	1.65
Muriate of ammonia	1.50
Free acetic acid, Lactate of ammonia, Animal matter soluble in alcohol, Urea not separable from the preceding	17.14
Earthy phosphates, with a trace of fluate of lime	1.00
Uric acid	1.00
Mucus of the bladder	0.32
Silica	0.03
	1000.00

Now, supposing these substances to be always present, which, in fact, they are not, the urine is never voided twice alike, and therefore little dependence is to be put upon these minute analyses. I shall endeavour to give you such an account of the urine, as appears to me to be more practically useful. The specific gravity of the urine varies from 1005 to 1040, perhaps it is sometimes below 1005; but when it is as high as 1040, it is a diseased secretion, and either contains much saccharine matter, such as is called diabetic urine, or is much loaded with animal matter, as it is in the cases of indigestion, and disorders of the liver. About 1020 is the average specific gravity of the urine; it contains carbonic, phosphoric, and uric acids, in a free state; phosphates of lime, soda, ammonia, and magnesia; common salt, sulphate of soda, albumen, and urea. Now, with regard to the water, we need not stop to prove its existence, because it is the menstruum by which the various substances are dissolved. That free acids exist in the urine, is shown by testing it with any of the usual tests for the acids. One of the acids it contains is the carbonic, and this you may prove, by putting some of the fluid into a retort, or under the receiver of the air-pump, and during exhaustion, you will find several bubbles of air escape. That it contains phosphoric acid appears to be evident, from various experiments; but if you pour lime-water into urine, a phosphate of lime is formed. Uric acid is also one of the free acids of the urine; and, in order to prove that, you may evaporate it, and during the evaporation a red powder will fall down, which is uric acid. This substance exists in considerable quantities in some calculi, and is easily recognised by nitric acid. If you heat a calculus, and apply nitric acid to it, you will have a red powder formed, which is very indicative of the presence of uric acid, so much so, that it cannot be mistaken. Dr. Prout has given much valuable information respecting this acid, and its principal characters are these: it exists in its pure state in the form of a white crystalline powder; it is very difficultly soluble in water, and is therefore found in the urine, but in small quantities, in its free state. It combines with bases, and forms a class of salts to which the term *urates* has been given, which have not been much examined. It was originally called by Scheele *lithic* acid, because it constitutes an abundant ingredient in urinary calculi. If we combine it with ammonia, it appears to form a salt, the *urate of ammonia*, capable of being dissolved in a small quantity of urine. So much then for the acids which exist in a free state in the urine; the carbonic, the phosphoric, and the uric.

If you pour ammonia into urine, you obtain a precipitate of phosphate of lime; and if you evaporate the urine carefully, you will get a variety of crystalline salts, among which you may recognise phosphate of ammonia, soda, and always phosphate of magnesia, and common salt; and during this evaporation, a further precipitate takes place, which is found to be a compound of phosphoric acid, magnesia and ammonia, called the ammoniaco-magnesian phosphate, an abundant ingredient in certain calculi. The solution of barytes dropped into urine occasions an abundant precipitate, which is phosphate of barytes; but Berzelius detected it in a minute portion of sulphate of barytes, and he considered that the urine contained sulphuric acid, which might have existed in very minute quantity, combined with soda or potassa.

That the urine contains *albumen*, is very evident, by setting aside urine which has

been voided in certain cases of diseased liver and indigestion; there is in such cases an abundant sediment of white matter, which is albumen, and not earthy salts, as it has been supposed. The quantity of albumen is very variable, and it appears to be in such cases secreted from the kidneys, and not derived from the mucus which lubricates the interior of the bladder.

Urea.—If the free acids, and the saline bodies mentioned were dissolved in water, the solution would not form any thing like urine, which is found to derive its peculiarity from a distinct animal principle, different from any before described, called *urea*. In order to obtain urea for the purposes of experiment, you must evaporate urine to the consistence of honey, which concretes into a saline mass on cooling, and by digesting this in alcohol, you get urea, which may be crystallised. It is found to be composed of oxygen, nitrogen, carbon, and hydrogen. It is very prone to putrefaction, and forms, during its putrefaction, a great abundance of ammonia; and the reason why urine so speedily changes in hot weather is, that the urea decomposes and liberates ammonia, which, uniting with the free acids, forms carbonate, phosphate, and urate of ammonia, and we find that in a few hours the whole composition of the fluid is upset, and that it contains very different bodies from which it did when first voided. Hence, too, another reason for our receiving with caution the accounts given of the analysis of urine. Here is a specimen of urea, beautifully white and crystallised, which was given me by Dr. Prout; but it is very difficult to obtain in such a state of purity. Urea combines with the nitric acid; and if into a solution of urea you drop a little nitric acid, you get a number of crystalline flakes precipitated, called *nitrate of urea*; and in some particular forms of disease, you get the urine so overloaded with urea, as to obtain from it nitrate of urea, by adding nitric acid, without any further trouble.

Such, then, are the substances which appear to exist in healthy urine in very variable quantities, some of them being occasionally, almost, if not entirely, absent. It is sometimes destitute of uric acid, or nearly so; and sometimes of urea. The urine voided by persons suffering from hysteric affections, is often little else than water; and in many cases of disease, you will find that one or the other of the ingredients named will be wanting.

Chemical physicians have made a great many experiments on the urine in different states of disease, but without throwing much light on the disease or the urine; but there is one form of disease called *diabetes*, which requires attention here, in which a large quantity of saccharine matter is formed in the urine, which furnishes on evaporation a quantity of matter not unlike common sugar. Between the urine of graminivorous and carnivorous animals, we find an essential difference; in graminivorous animals, uric acid is seldom present; hence it has been inferred, that uric acid owes its origin to animal food, and that, therefore, when it is known to exist in such abundance as to deposit calculi, it has been advised that we should limit the quantity of animal food, and this is true to a certain extent; but the parrot voids uric acid in its urine, and the urine of some snakes, especially the *boa constrictor*, which swallows large quantities of animal food, contains uric acid and urate of ammonia; and here you observe, that it is manifestly a secretion, not a refuse of the food that this animal voids, but a secretion from the intestinal canal, since snakes have no urinary bladder.

Of the substances I have mentioned as existing in the healthy state of the urine, there are some which occasionally make their appearance in excess, and then the urine assumes what may be termed a morbid state. The urine ought to remain transparent on cooling; but sometimes it begins to deposit various matters soon after secretion, and in some cases even in the bladder, and voided with the urine, and this disease is generally called *sand* or *gravel*; and, as far as chemistry is concerned, we may divide it into *white* and *red sand*. In the treatment of calculous deposits, it is important to bear in mind this distinction, because they have been too indiscriminately treated with great disadvantage to the patient. The *white sand*, which makes its appearance in the urine at the time it is voided, or soon after, sometimes has a white sediment, or a crystalline film upon the surface of the urine, which is constituted chiefly of phosphate of lime and ammoniaco-magnesian phosphate; generally the latter predominates, and you find that it may be produced in the urine by a variety of causes, and may at any time produce it by taking large doses of alkaline medicines: if you take carbonate of soda, or carbonate of potash, in large doses two or three times, the urine will deposit this sediment; and it is liable to be produced, as far as I have observed, by feeding too largely upon an amylaceous diet. Now magnesia will produce it very abundantly, and I mention this, because persons taking magnesia, and observing this sediment in the urine, have said that the magnesia has the power of curing the red gravel, whereas it has nothing to do with it, except that of rendering the urine alkaline. Now the ammoniaco-magnesian phosphate, and the phosphate of lime, are held in solution by the uric acid; and whenever you diminish

the acid, or take away the solvent which holds these bodies in solution, the urine will have a tendency to deposit this white sand. I do not mean to say, that this deposit is important when only occasionally observed; but when the urine for a long time together deposits white sand, it should be strictly attended to, as it is likely to be a forerunner of calculus; and it is impossible to press upon you the necessity of attending to this disease too much in its early state, for it is then generally manageable; but it unfortunately happens, that these changes are not attended to until the pain which the calculus produces calls the attention seriously to it. Now inasmuch as this white sand is deposited in consequence of a want of acid in the urine, you will find that acids and other remedies which tend to increase the acidity of the urine, will be very efficacious in checking and putting a stop to this production; and it is a curious fact, that acids and alkalies will go off by the kidneys, and produce the same changes on the secretion of the kidneys, as if they entered into the composition of this secretion, which is not the case; they only change the secretion of the kidneys. With this fact before you, you have only to administer such acids as are calculated to diminish the formation of the white sand, and this may be done by an acrid diet, and you will direct the patient to drink claret in preference to port wine, and the light French wines in preference to Sherry and Madeira; to take salads, and to avoid all the common kinds of amylaceous food. Carbonic acid, when the stomach will not bear other acids, will prove very efficacious, and a pint of water impregnated with carbonic acid, taken twice in the day, will be very serviceable in many cases. In some cases it will be necessary to throw aside the chemical treatment altogether, and to treat the patient according to more general rules of medical practice; to regulate the secretions of the bowels and stomach and liver, and so on.

Red Sand.—There is a kind of sand voided very frequently, which we shall call red sand; it is chiefly uric acid, and it appears like brick dust, of various shades of colour, but generally red, or orange, and when this is the case, you may be sure that uric acid is in excess, and this disease is of a more alarming description than the other, because of its greater tendency to concrete in the bladder. The treatment to adopt in this case is, to use the alkalies, or the alkaline carbonates, and the latter are to be preferred, because they are equally efficacious as the caustic alkalies, and less liable to injure the stomach. Magnesia is also successful in producing relief, but it should be used with caution; and I have known persons take a teaspoonful of it night and morning for months, and thereby cause a great accumulation of earthy matter in the intestinal canal, much to the injury of their general health. Ammonia may also be advised; and, both in this form of sand and in the other, you would find the greatest benefit by giving plentifully of diluent drinks, in order to enable the urine to retain a greater quantity of matter in solution than it otherwise could do.

Calculi.—When sand accumulates in the bladder, and is neglected, it concretes, and forms urinary calculi, of which you here see three, which are so small as to have been voided by the urethra. Here are several calculi, which have been formed in the kidney, and which passed by the ureters into the bladder, but these concretions sometimes lodge in the bladder, go on increasing in size, and at length require a surgical operation for their removal. To give you a notion to what extent these things sometimes grow, you see here calculi, taken from the human subject of immense size. You generally find, upon making a transverse section of a calculus, a central nucleus, around which depositions of earthy matter appear to have been made in successive layers, so as to have a laminated appearance, and indeed they very easily break into layers, as this specimen shows you, when there is a number of successive strata, or deposits, around a central nucleus. These calculi are soluble in the alkalies; with nitric acid they furnish a red compound, which I have already adverted to, and, in short, they are chiefly composed of uric acid. Now, this is only one form of calculus, and you will observe what the history of its formation is; the urine has acquired a tendency to deposit an unhealthy quantity of uric acid, which has accumulated in the kidney, and afterwards passed into the bladder; the urine passing over it, and being supersaturated, as it appears, with uric acid, has deposited, gradually, a great quantity upon it in successive layers. This is one of the varieties of calculus which we call *uric acid calculus.*

The *phosphate of lime* calculus is comparatively rare; it is of a pale-brown, or grey colour, laminated in its appearance, and dissolves in the acids, but not very readily however, and is precipitated by ammonia in the state of phosphate of lime. It is a singular thing, that the calculi from the prostrate gland are always composed of the phosphate of lime, or bone earth.

Why, then, a third species of calculus is the *ammoniaco-magnesian phosphate*, and this is very common; its history is important, because of the natural tendency of the urine to deposit this matter upon extraneous substances, so that, suppose you have a small fragment of uric acid in the bladder, and that the urine then ceases to

deposit uric acid, and acquires its healthy character, that nucleus will not be redissolved in the urine, but the urine, trickling over it, will deposit the ammoniaco-magnesian phosphate. Thus, you find, if a piece of bougie gets into the bladder, or any other extraneous substance, it soon becomes coated with this substance. It sometimes happens, that in consequence of some disease of the prostrate gland, the bladder is unable to evacuate all the urine, so that there remains a little pool of urine in the bladder, in which the sabulous matter accumulates, and deposits a nucleus, which continues to receive fresh additions of deposit. This ammoniaco-magnesian phosphate calculus, is distinguished by its crystalline texture; by its solubility in the acids; by its exhaling ammonia when heated; and by its leaving an acid phosphate of magnesia.

There is a calculus composed of a mixture of the two last-mentioned substances, which is called the *fusible calculus*. These substances exist naturally in the urine, and you are to attribute their deposition to some fault in the state of that fluid; but there are other calculi, which are exclusively the products of disease, composed of materials not found in the healthy urine, such is the *mulberry* calculus, as it is called, from its tint; it is composed of *oxalate of lime*, and whenever this substance can be detected in the urine, calculi are very prone to form. When it forms in the kidney, and falls down into the bladder, it looks like a hemp seed, having a smooth polished surface; and you may distinguish it from the others by heating it a little with a blow-pipe, when it blackens and swells up, and melts away, leaving a little white infusible residue, which is quick-lime.

The practical application of the diagnosis of these calculi is, that when patients have voided a calculus of oxalate of lime, they are not liable to have a return of the complaint, and I have known eight or ten cases of this kind; whereas, if they void uric acid calculi, they will be liable to repeated attacks of the same disease.

There is a peculiar substance sometimes voided with the urine, which Dr. Wollaston has called *cystic oxide*; it is very soluble in the urine, so much so, that it is wonderful that it should ever concrete; it is of rare occurrence. These, then, are the substances which appear to constitute urinary calculi; some others have been described, such as carbonate of lime, urate of ammonia, silica, and some other substances, but not upon good authority.

Now, in concluding this subject, we may observe, that the treatment of urinary calculi, chemically, must be the same as that already pointed out for sand; but that the attention of the practitioner should be chiefly directed to the treatment of that affection, if he wishes to prevent the formation of stone; and, I believe we may state, that when a calculus is once formed in the bladder, it cannot be dissolved, and that the cases of apparent cures, which have received rewards even from Parliament, are without foundation. A stone may remain for a time quiet in the bladder, in consequence of being encrusted at one time with a less irritable coating than another; or it may sometimes fall between the fasciculi of the coats of the bladder, and thus remain quiet, which was the case in the patient treated by Mrs. Stevens, for which she was rewarded by the public; and in such cases the relief obtained is often attributed to the action of some solvent. The fact is, that solvents, as generally used, are liable to tend to the growth, rather than to the solution of the stone. The patient is apt to console himself with the idea, that all the alkaline matters he is voiding is coming from the stone, whereas it comes only from the bladder, being there deposited in excess from the urine, in consequence of his taking alkaline medicines; and sometimes there have been layers of alkaline and acid depositions upon stones, according as the medicine taken has been changed.

There remains for consideration two or three important proximate principles of animals, and also a general view of the functions of animals, and these we shall take up in the next lecture.

FOREIGN DEPARTMENT.

ON THE BILATERAL OPERATION FOR STONE, AS PERFORMED BY BARON DUPUYTREN.

The origin of the bilateral operation is involved in some degree of obscurity; Bromfield in England, and Chaussier and Beclard in France, were led by reflection on a passage in the twenty-sixth chapter of the seventh book of Celsus, to suggest this operation; and, from the words of Celsus, it is not improbable but that the bilateral operation as now performed, was the one which he described. Be this as it may, a point of no great importance, the merit of being the first to perform it on the living subject is now generally, and, we believe, correctly, ascribed to Baron Dupuytren. His mode of operating is as follows:—

The patient being placed as in the lateral operation, and the staff being introduced and given to an assistant, the operator, with the right knee resting on the ground, places the thumb of the left hand on the tuberosity

of the right os ischii, and the fore-finger of the same hand at the base of the scrotum, and, in this way, puts on the stretch the skin of the perineum. With the other hand, the operator takes a straight scalpel, and introduces it on the right side of the perineum, ten or eleven lines from the raphe, and directs it to the left side, describing a slight curve. The centre of the incision should be from six to seven lines in front of the anus in children, and nine to twelve in adults. The parts divided in the first steps of the operation, are thin subcutaneous cellular tissue, perineal fascia, ejaculatores urinæ, and a few fibres of the transverse muscles.

The first part of the operation being finished, the surgeon introduces into the centre of the wound the extremity of the left forefinger, for the purpose of feeling the membranous portion of the urethra and the staff. Then the nail introduced into the groove of the instrument, serves as a guide to the scalpel, the cutting edge of which directed at first backwards, divides this portion of the canal, and then returned, prolongs the incision towards the superior part. As in the motion thus communicated to the knife, its escape from the groove of the staff might take place, Baron Dupuytren advises a double-edged scalpel to be used, although he generally employs a common scalpel himself.

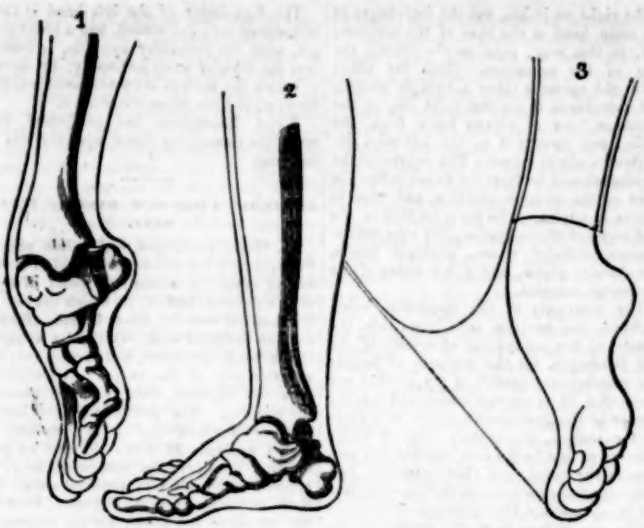
When the urethra has been divided to the extent of six or eight times, the nail being still kept in its situation, the lithotome is introduced. The operator then takes with the left hand the staff, and slightly depresses the handle, whilst the lithotome is pushed forwards, the concavity being turned upwards. When the lithotome reaches the extremity of the groove, it must then be disengaged from the groove, and the staff withdrawn. It is then turned, so that its concavity looks downwards. This turning of the instrument is necessary; for if it were opened whilst its concavity was turned upwards, the two blades would be perpendicular to the direction of the vessels, and these would then inevitably be wounded, an accident which will not occur if the concavity be downwards, as both blades will be then parallel to the rami of the ischia. The lithotome being in this situation is opened at No. 14 for children, and No. 15 for adults, and is then withdrawn with great precaution. When the operator finds, from the resistance being overcome, that the neck of the bladder and prostate are divided, he ceases to press on the part which communicates with the blades, by which they return into their sheath. It is the double incision which constitutes the great advantage of the bilateral over the lateral operation, as performed in England.

The fore-finger of the left hand is then introduced into the wound, and a blunt gorget, with the concavity upwards, is passed into the bladder when necessary, by means of which the forceps are introduced into the bladder, and the stone withdrawn.

Baron Dupuytren has performed this operation twenty-six times, with the loss of one case.

ARTIFICIAL ANUS—NEW MODE OF TREATMENT.

M. Roux performed, some time ago, in Paris, a new operation for the relief of artificial anus. A woman, 26 years of age, after a difficult labour, in which the use of instruments were required, became afflicted with an artificial anus, which was situated in the small intestines, and opened into the superior part of the vagina; the aliment, in a half-digested state, escaped through the opening. The patient's general health was very much affected by the complaint, on which account, M. Roux decided on performing an operation somewhat new, as applied to the relief of artificial anus. He made an opening into the abdomen, between the umbilicus and pubes, for the purpose of finding the perforated intestine, but having neglected to introduce a catheter, or long probe, through the external opening of the artificial anus, it was with considerable difficulty he succeeded in reaching the diseased intestine. M. Roux laid hold of what he conceived to be the superior, but which, in reality, was the lower portion of the gut, and divided it; he then took the sigmoid flexure of the colon, which, from its empty state, appeared like small intestine, and invaginated it into the extremity of the gut previously divided. Sutures were applied for the purpose of keeping the ends of the gut together. The patient died 36 hours after the operation, and the examination showed the mistakes which had been committed; if the patient had survived, the operation would have been useless, for the fæcal matter passed by the superior extremity of the small intestine into the colon, would have taken in this portion of the intestinal canal a wrong direction, and have escaped into the vagina by the lower end of the small intestine, which had never been touched. We had certainly not expected that a surgeon possessing so much operative skill as M. Roux is known to possess, would have committed these mistakes, or that *any* surgeon would have performed so hazardous an operation for the relief of a complaint which, in itself, is not destructive of life.



To the Editor of THE LANCET.

SIR,—I shall now proceed to explain the process by which I cured those deformities, an account of which you have already published; as it would be a sad waste of time to investigate or refute all the erroneous opinions that have been entertained on this subject, I shall confine myself to explain and account for the facts which I have already proved.

It is certain, that at one period the feet of these patients were all in a perfectly natural state; that, by degrees, they became deformed to the extent that has been shown, and the patients were believed, by all the professional men who were consulted, that the changes, by whatever means they were produced, were irremediable, and the patients must remain cripples. I now beg to ask if you, or any other gentleman in the profession, will undertake to demonstrate by what change of structure, arrangement, or other alteration of these limbs, they passed gradually, and became, to all appearance, permanently fixed in the deformed state? Or will any one explain by what means I returned those deformed limbs to their natural state, so effectually, that the patients resumed all their natural functions, and passed through the rest of their lives in a state of health, and, so far as their limbs were concerned, of happiness? As I do not believe that any one will undertake to give these explanations, I will endeavour to do it myself.

To assist in this I have, in the annexed figure 1, drawn a deformed foot, the same as that which is in the second of these cases, and within it I have drawn the bones of the foot in the relative positions they were in, while the foot was in that deformed state; by this figure you will see, that the head of the astragalus was moved from under the scaphoid cavity of the tibia, and placed in the front of the foot; the os calcis was placed close to the back of the tibia, and, being covered with the soft parts, gave the appearance of a very small heel, which the wise men of that time said was occasioned by malformation of the bone, and therefore, *must* be quite irremediable. In figure 2, I have repeated the sketch of the same foot that was drawn after it was restored to its natural state, and within it I have drawn all the bones in the state they must have been in while the foot was in this its natural state, both before and after it was in the state of deformity that has been shown. As the facts were ascertained, I again ask by what means these repeated changes were effected? As I shall receive no answer, I proceed with my explanation, in which I shall be assisted by the history of the cases themselves.

The predisposing cause of the first was certainly palsy, which remained in existence for several months, and rendered the limb useless; the predisposing cause of the second seems, likewise, to have been palsy, although it was not so well defined as the first, and if it were palsy, continued

but a short time, and then ceased, leaving the foot useless, under the influence of debility; but the third had no predisposing cause whatever. A healthy child was, by the direction of a professional man, who was in all probability misunderstood, deprived of the opportunity of using her legs, by placing her upon a crutch, till the limb became contracted, deformed, and incapable of being used; yet the effect in all was the same, and they were all cured by the same means. The same alteration took place in all: the legs and feet diminished in size till they became rigidly contracted, and then seemed to have acquired the maximum of diminution, if I may be allowed to use the term.

There were three deviations from the natural state of the parts in these limbs, which, though they were united to produce the deformity, must be considered, as they were treated, separately; first, a deviation from the natural arrangement of the bones; this was the basis of the deformity, although the bones were quite passive; second, a peculiarity in the capsular ligaments, which will be hereafter explained; and, third, a deranged action of the muscles, which was the direct cause of all the distortion.

If the account of the first case is examined, it will be seen, that when the patient stood as upright as possible, his heel was more than four inches from the ground, and in the other two cases the contraction, or, as I am disposed to call it, the retraction of the heel was quite as much: this was occasioned solely by the contraction or retraction of those muscles which form the calf of the leg. This was the sole and active cause of the whole defect in the limb, and the cure was effected first by producing so much extension of those muscles, as increased their length more than four inches, and their bulk was increased so much as to add one inch and a quarter to the bulk of the leg, when the circumference was measured round its largest part. No effect like this has, I believe, been produced by any other person in this country; but as something very like it has, from time immemorial, been practised in some other countries, and as the knowledge I had acquired of the success which had attended these practices first led me into that train of reasoning and experiment, which led me to discover and bring to its present state the practice of which I shall now give the details, I shall give some account of the ground upon which I proceeded. It has been, time immemorial, the superstitious practice of some religious persons in India, to deprive themselves of the use of some of their limbs for a series of years, in honour of their divinities, and when the term of their vows was expired, they restore those limbs to their natural uses, and they remain as if they had never been deprived of their natural powers. One authentic proof of this practice I have found in Captain Turner's account of his embassy to the Court of the Teeshoo Lama in Thibet. In speaking of one of the enthusiasts that have been mentioned, Captain Turner uses these words:—"The complete term of his first penance being expired, the next he undertook was, to hold his hands, locked in each other, over his head, the fingers of one hand dividing those of the other, for the same term of twelve years. When I first saw him at this place in 1783, he rode on a pye-balled tangum horse from Boutan, and wore a satin embroidered dress given him by Teeshoo Lama, of which he was not a little vain; he was robust and hale, and his complexion, contrasted with a long bushy black beard, appeared really florid. I do not suppose that he was then forty years of age. Two gosseins attended him, and assisted him in mounting and alighting from his horse; indeed he was indebted to them for the assistance of their hands upon every occasion; his own being fixed and immovable in the position in which he had fixed them, were of course useless.

"*The circulation of the blood seemed to have forsaken his arms; they were withered, void of sensation, and inflexible, yet he spoke to me with confidence of recovering the use of them, and mentioned his intention to take them down the following year, when the term of his penance would expire.*

"Other gosseins assured me, *though I could not help doubting the fact, that it is practicable to restore withered limbs, thus circumstanced, to perfect use.* This is effected, they say, though not without great labour and some pain, by means of long friction before a large fire, with a certain ointment which they compound."

Substitute the words legs and feet for arms and hands, and the language of Captain Turner will completely describe the legs and feet of the three patients whose cases I have described, *wasted, rigid, and incapable of any kind of motion.* Captain Turner *doubted the fact of its being possible to restore limbs that were so circumstanced, to perfect use;* but, as the course of my reading enabled me to know that this very practice had existed in India for a time that extended to periods more remote than any of which we have any historical knowledge, I believed that what these gosseins told Captain Turner was true: I assumed that the feet of my patients had, by some means, passed into the same state as the arms of this devotee; and as he, whenever he pleased to do so, could recal them to the same state of useful perfection as they were in when in their former state, I inferred that *I might* likewise be able to restore my patients to the use, as well as

the natural form, of their legs: I had a bad opinion of the surgery, if it deserves the name, by which these people professed to make the alterations which they did produce, and resolved to depend upon my own resources in the attempts that I should make to cure these patients.

Before I attempt to explain these, I will endeavour to show the progress of those alterations which certainly took place in the progress of this man's arms, from their natural to the rigid and useless condition to which he reduced them. If I stand upright, and raise one arm into the air, pointing perpendicularly to the zenith, and bend the other downwards, pointing to the earth, after I have been in this situation some time, that arm which is raised in the air will become pale, and that which is pointed downwards will have acquired a much higher colour; this alteration is produced by the action of gravity. The circulation of the blood goes on as usual through the whole body, but the mere effect of gravity prevents *so much* from passing the arm which is raised, as passes through that which is dependent; the red particles of blood being the largest and heaviest, increase in the arm that is dependent, and the arm which is raised receives less blood upon the whole, and the quantity of blood which it does receive contains less of the red particles than the other arm. The consequence of this proceeding being continued by our devotee was, that the arms, being kept elevated and motionless for twelve years, received gradually, less and less of the circulating fluids, till it received no more than was necessary to support the life of the parts; the flesh wasted as the fluid diminished, till it could diminish no more, and the arms became rigid, motionless, and consequently useless; while the body, by the effects of the exercise which, it seems, the man continued to take, preserved its healthy condition, as Captain Turner represented, and the arms, not having suffered the effects of any disease, had no obstacle of that kind, which would prevent them from resuming their natural powers, provided any adequate means could be devised to give it to them. In hopes of effecting this, I applied to part of the knowledge I had received from Mr. Hunter. He said, "I do not know by what means the will is connected with those muscles which perform voluntary actions; but I have often known, that when that action has been lost, and a limb rendered useless, I have restored that limb to its natural action, by setting an assistant to force that limb, by working it with his hands in the same direction that it would move if it had its natural powers, and by continuing this extraneous action for a long time artificially, I have even seen the use of a limb restored, after it had, to all appearance, been quite lost."

Being armed with these authorities, I engaged in a course of experiments which enabled me to complete that mode of treatment which I will now endeavour to explain. Of the great number of persons with whom I have conversed upon these subjects, the very few who have believed it was possible to cure them, have supposed, that those cures were effected by great pressure. "What immense pressure you must have used to produce so much alteration in the position of the bones!!!" The simple answer is, that I used no pressure whatever; on the contrary, my most anxious care was always exerted to avoid making pressure of every kind, which, if it ever take place, must produce mischief, as you will perceive that the soft parts lying between the bones, any thing that is made to press upon them, must bruise them and produce inflammation and all its evil consequences. The process by which I did cure these cases may be thus described.

I placed upon the leg a plate of iron, tin, or other metal, as the circumstances of the case required; this was lined, or otherwise guarded, so as to prevent its edges, or any other part, from pressing upon any part of the leg. This contrivance, by whatever name it is called, was fixed to the leg by straps, bandages, or adhesive plaister, arranged in any manner that, at the moment, seemed to be necessary. Upon this plate I fixed a spring, whose length was equal to, and, when any circumstance required it, longer than the greatest length of the leg and foot; the curve of which was directly contrary to the bend that the foot had taken, and the range of whose action was, if it had been exerted to its fullest extent, such that it would have drawn the foot, at first, *to* its natural position, and afterward much beyond it. This may, perhaps, be understood by reference to the annexed figures, which represent the deformed foot and leg; the curved line A. A. represents the curved spring.

I assumed at first that the deformed state of the limb was produced by contraction, or retraction, of all the flexor muscles of the leg, and, in this case, a small degree of contraction in the plantar aponeurosis; by these means the action of the extensor muscles was first overcome, and afterwards lost. The leading idea that I adopted was to produce contrivances that should imitate the action of those muscles which had lost their power, and then, by applying them in a proper manner, overcome the too powerful contractile action of the flexors; if this was done, and the loss of power in the extensors was but temporary, the natural action

of the whole limb would be restored; but, if the loss of power in the extensors was permanent, after the foot was restored to its natural form, it would still be necessary to support it by artificial means, to prevent it from relapsing, and enabling the patient to walk, though in a manner that would necessarily be imperfect.

This speculative idea has since been realised to its fullest extent. You will perceive, that if the foot, which is represented by these figures, had, by luxation of its ligaments, or loss of muscular power, fallen into that position, but had retained its flexibility, if the end of the curved spring had been bent down till it came near to the top of the foot, without touching it, and if it was then bound in that situation to the foot, its reaction would draw the foot up into its natural position; but, if it was *rigidly fixed in its deformed state*, the recoil of the spring would bring a strain upon the contracted muscles; this would produce, first, pain, then increased circulation, and, successively, inflammation, and, if the same strain was continued, proceed to mortification of the limb. This method of treatment, you will perceive, is a most powerful instrument, and requires to be managed by skilful hands, or great mischief will ensue.

This part of my process may be described in few words, but to practise it with success requires great and unwearied attention for a long time. I have always proceeded in this manner: first, to ascertain the degree of rigidity that exists in the contracted limb, and the degree of force that must be used to counteract it. Having determined these two points, with as much accuracy as the circumstances will allow, and prepared my springs accordingly, I apply and fix the upper part of the instrument on the leg; I then try, with my hands, how far I can raise the foot towards its natural position; I hold it firmly in that position, while I bend the end of the curved spring down towards the foot, and bind it by passing straps of adhesive plaister round the spring and round the foot, so that, when left at liberty, the reaction of the spring will draw the foot upwards towards its natural position, something more than I can draw it with my hands. The effect of this is, that the foot is drawn upwards, and the muscles, which are subjected to this action, are strained to a certain extent; it is in the nature of all muscles, that are drawn to their full extent, to endeavour to retract; in doing so, those muscles upon which I operate are checked by the springs, *totally if the spring is too strong*, but if it is of a *proper strength*, it will be overcome by the retraction of the muscle. But as no muscle can continue in one action long, and the elastic action of the spring is continual, it follows of course, that when the strength of the muscle gives way, the spring overcomes and draws the muscle to itself, and, having yielded until its tendency to retract predominates, it again overcomes the action of the spring, and they thus proceed alternately till the cure is complete. I hope that I shall be understood, as this is the best explanation I can give; my meaning is, that in healthy muscular action, action and reaction are equal and opposite to each other, but in these distorted feet, one of the actions is first diminished, till it is quite lost, and the foot becomes rigidly fixed. When the remedy is applied, and brought into action, the power of the extensors, which has been lost, is supplied by the artificial contrivance that has been described; it is increased gradually, till it overcomes the contraction of the gastrocnemii muscles, the bones are restored to their natural situation with respect to each other, and the patient is enabled to set his feet flat upon the ground; this may be called the first stage of the cure.

In all the cases of this kind that have been under my management, the cure has been effected, progressively and gradually, in the way that has been described; the parts have been kept continually in action from the beginning, but they were so managed, and the process was conducted so gradually, that in the whole course of my practice I never had occasion to use any means whatever to allay inflammation, or administer any opiate to procure sleep to the patient. The progress of the alteration in the gastrocnemii muscles took place nearly in this manner:—On the first application, the muscles were extended as much as they would admit; they were then in a state of tension; when the spring was put in action, more tension was produced; after a short time there was pain, increased circulation, and a tendency to inflammation. When this took place, the action of the spring was diminished till that tendency disappeared, and the spring again brought into action; this was so managed, that after it was once brought into action, the extending power never ceased till the patients were able to stand flat on their feet; this, in the three cases that have been related, occupied about eight months in each case; in that time the gastrocnemii muscles were lengthened more than four inches, and increased in bulk to the extent that has been described. I am not aware that any alteration in the structure of muscles has been, in any other cases, produced to this extent, by any means whatever.

This may be called the first stage of the cure. I shall now proceed to the second, in which the ligaments are principally concerned. It has been usually said, that the

ligaments are inelastic; they are nearly, but not entirely so. It has been usually found, that when a joint is subjected to great violence, the capsular ligaments were ruptured, and the cavity of the joint laid open, as happened to a nobleman who, some years ago, was thrown from his phæton; both the joints of his ancles were ruptured in this manner to such an extent, that his feet were turned up against the outside of his legs. By a less degree of violence the capsular ligaments will be luxated, or strained to a degree that produces much inflammation and great swelling in the whole joint, and I believe every surgeon is aware of the trouble and difficulty there is in restoring joints that have been so injured, to their natural tone and action; the alteration which takes place in the capsular ligaments in such cases, are different from those which took place in the cases that are now under consideration.

It is well known that the capsular ligaments in joints are so proportioned to the joints of which they form a part, that they will allow the motion of the joint to the full extent of its natural action, but no more. If you look at the annexed figures, however, you will perceive that as the gastrocnemii muscles retracted, they drew the os calcis upwards, and at the same time forced the circular head of the astragalus forwards till it became the most projecting part on the front of the foot. As all the patients were in a state of great debility, and the alteration in the forms of their feet took place so very gradually, that the astragalus, in moving forwards, stretched the capsular ligament and carried it before itself to the full extent that the distortion of the foot occasioned it to go. The debilitated state in which the patients were, was so far favourable, that it allowed this extension of the capsular ligaments to take place to this very great extent, without producing any pain, for the patients all declared that they never suffered any pain in their feet while their distortions were coming on: when, by the treatment that has been described, I forced the gastrocnemii muscles to extend till they had regained their natural length and resumed their natural position, I necessarily and unavoidably forced the circular head of the astragalus back into its natural situation, under the scaphoid cavity of the tibia: in proportion as this was effected, the portion of the capsular ligament which had suffered extension, by projection of the astragalus, now sunk again into its natural situation; the consequence of this was, that the capsular ligament, instead of being duly proportioned to the bones of the leg and foot so as to restrain them to the natural extent of their motion, in consequence of the additional length which they had gained when the distortion was produced, did not restrain the action of the foot in any manner, but when the patient attempted to move, allowed the foot to return at once to its original state of deformity. The same effect took place in the muscles, and from the same cause: when the foot passed into the deformed state, the extensor muscles of the foot, which pass from the leg over the foot to the toes, increased in length, at the same time that they lost their power; were equal in length to the foot in its most extended state, and when the foot was returned to its natural form and position, the muscles had no power whatever, either to keep it in that position, or to enable the patient to walk, or to use the foot in any other manner; so that what was gained up to this moment was to enable the patient to stand flat upon her foot, but not to walk or move upon it. The integuments, like the muscles, had increased in proportion as the distortion increased, and followed the same course in every respect; so that when I took the foot into my hand and could, without difficulty, place it on its natural position, the ligaments, the muscles and integuments, being of too great length, and redundant in quantity, formed themselves into wrinkles on the top of the foot, of which the patient could make no positive use whatever.

This being the case, the next process in the cure was to restore the ligaments, muscles, and integuments, to their natural proportions, relative to the bones of the foot, now that *they were restored* to their natural form and position relative to each other; this was effected by means which I will endeavour to describe.

It is well known that the soft part of animals will waste or be absorbed, if pressure is constantly kept up upon them; I therefore endeavoured to try if I could produce continued pressure upon this foot, in such a manner as might cause the absorption that I wished should take place; to do this, I contrived an instrument which, when placed upon the foot, prevented it from passing in any way from the position in which it was, when the patient stood upright upon it; when this was done, I made compresses of soft materials, but of so much firmness, that they would keep the form I had given to them; these compresses were made of forms that would allow them to press the soft parts close to the bones: these soft parts were guarded with a sedative plaister, to prevent any irritation of the skin; the compresses were then carefully applied in their proper situations, and, over the whole, a tight bandage in the nature of a laced stocking, which was always laced as tight as possible.

I have already said, that if pressure was made upon the bones with a view to pro-

duce any alteration in them, it must be useless, because it was not proportioned to the nature of the defect, and it must be mischievous, because the soft parts would be injured by compression between the hard bones on one side, and the hard instrument on the other; but when the case was reduced to the state that is now described, it was neither necessary, nor intended to produce any alteration whatever in the form or position of the bones; the intention was to compress the soft parts upon the bones, so as, by absorption of their redundant quantity, to bring the bones, ligaments, muscles, and integuments, into just proportion to each other, so as to give them the only chance of resuming their natural actions, if it was possible that should take place.

I have always found that this compression, when carefully applied, produced the effect that was intended; the firm, though soft compresses, confined the soft parts in contact with the bones, so as to give the muscles, &c., the form that was intended, and would necessarily produce the absorption that was desired, so soon as the circumstances of the patient's constitution would admit the additional compresses that were added, till they brought the leg and foot to a round form, which is the best for receiving regular compression from a laced bandage, the effect will certainly take place. An opinion prevails, that compression produced by such bandages will be injurious, by impeding the circulation; this is an error; a ligature, as the bandage by which the arm is bound up previous to bleeding, does impede the circulation, because it closes the arteries, and prevents the passage of any blood through them; a laced bandage, however, which passes down the whole, or a considerable part of the leg, foot, or any other part, if it is carefully guarded by compresses in the way that has been described, the bulk of the whole will be diminished; the diameters of all the vessels are diminished in the same proportion, which is the effect that is intended to be produced, until the cure is completely obtained.

When the patient has been brought to this state, he is able to walk without other inconvenience than a certain degree of lameness, similar to what is seen in men who walk upon a wooden leg, and for a reason that is, in one respect, similar; the wooden-legged man has no muscles, flexors, or extensors; he supports his body by the wooden prop that is placed under him, and he moves from one place to another by shifting his support as it becomes necessary by using the remains of the muscles of his thigh, which indeed are the only muscles that he has, which are applicable to this purpose. The extensor muscles of the foot and thigh of our patient are perfectly useless, in consequence of the situation in which it is now placed; *he* moves himself about by acting with the flexor muscles of the thigh only. If the compression that has been mentioned is properly kept up, and all the other parts of the treatment that has been mentioned are steadily and constantly followed, absorption of all the redundant quantity of ligaments, muscles, and integument, will take place, till the extensor muscles become justly proportioned to the flexors, and then the very beautiful principle which I have the highest gratification in saying I received from Mr. Hunter, may be brought into use with most beneficial effect.

Mr. Hunter said, "that when muscles had, to appearance, lost all their power of voluntary action, he had often restored that power, by forcing them, for a length of time, to act by means of an assistant, in the same way that they would act if they had their natural power." You will perceive that the way in which I have applied the action of springs, in these cases, to produce extension of the gastrocnemei muscles, is one very effectual application of Mr. Hunter's principles, and the way in which I apply it in this last stage of the cure, is another. I direct my patient to walk deliberately and firmly, lifting the foot that has been deranged, and keeping it raised from the ground for some time; it is then to be set deliberately down; the other leg is then to be moved, and so on, until the natural action is restored. Sometimes, when it is necessary, I examine my patient, to discover if any muscle is particularly defective in its action, and by appropriate motions which I give to it with my own hands, and, when necessary, by other means, I have always succeeded in restoring the power of acting and moving in the natural manner at last.

Having given what I know to be a correct, and hope will prove to be an intelligible, although it may be a tedious, account of the means by which I cured those cases, I beg to recapitulate that they consist of two distinct processes, or operations; first, that by which I produced extension of the gastrocnemei muscles to the extent that I have described; the retraction of these muscles was, in these cases, the cause of all the distortion; in other cases, where the feet are turned in other directions, as in those which I first communicated, where the feet were turned inwards, other muscles are concerned in producing the distortion, but the principles of treating all must be the same; viz. to produce springs, whose forms are proportioned to the forms of the distortions that exist, and that the person who manages the cure, should perfectly comprehend what is to be done, and possess skill to

do it properly, circumstances which ought to place the treatment of those cases entirely in the hands of gentlemen who practise surgery. I have never had occasion to use, in any case, a twentieth part of the power that may be produced in this way; the principal danger consists in using too much power; the next, in not having the skill that is necessary to make use of it: of this I could give one instance, where destruction was nearly brought upon a patient, by the ignorance of a person who undertook to do what he well knew that he was not competent to perform; this is the same person who was described by Dr. Neale to his friend Captain Darley, as the wrong Sheldrake, and whom, in your notice to correspondents, you have described as *Sheldrake, a truss-maker*. As the spirit of reformation seems to be abroad, it would be well if the Royal College of Surgeons took some effectual measures to deter such persons from doing mischief, either by assuming the characters of others, or acting in their own.

This first process is but little liable to fail, and indeed never will fail, if proper cases are selected for the treatment, and due care and skill are employed in the practice, and it will generally be found that this first process will produce its effect in a reasonable time—I say *reasonable time*, when it is considered how much is to be done: in the three cases that have been described, the whole elongation of the gastrocnemei muscles, more than four inches in each case, was produced in about eight months.

In the second process, which consists in reducing the ligaments, muscles, and integuments, to a due proportion to each other, and to the bones, as well as to restore the full natural powers of the whole, requires more time and trouble, with the additional disadvantage, that the progress of this part of the cure is more slow, and less visible to the bystanders; they cannot so easily understand the alterations that are actually going on, because neither the alterations nor the effects are so visible as they were in the first stage of the cure.

It will be proper to observe, that in the first case that has been related, palsy had existed for many months; and after that was in a great measure removed, the peculiar flaccidity of muscles which remains after palsy has ceased, continued in full force; to this was added mismanagement of every kind for several years, so that this unfortunate patient was depressed into a melancholy state of constitutional debility. In the second case palsy is said to have existed, but for so short a time, that no proof could be had that it really existed at all; it appeared to me, that the patient had, originally, a delicate constitution; some unknown accident deranged one of her feet, which rendered her less capable of taking exercise than she had been before; this produced other irregularities, which, reverberating from one to another, at last brought her into the miserable state she was in, when I first saw her. The third case differed from the two former; as the patient was a very strong and healthy girl, active, and as willing to be so as any girl of her rank in life; in consequence of a very trifling accident, she was unwisely recommended *not to use her foot at all, till it was quite well*. In consequence, she discontinued her active life, by substituting a crutch for that leg which had been imprudently condemned to a state of inactivity; this she did effectually; she evidently had a strong constitution, with as high a state of health as I have ever seen in any person whatever; even the foot, which had been deprived of its powers by keeping it suspended, useless, was only diminished in size, and rendered rigid and motionless, without being less healthy than any of the other members. Notwithstanding this difference in the condition of the patients, they were brought through the first stage of the cure in nearly the same portion of time. In the second stage the cure was different in each case, in proportion to the different degrees of constitutional debility under which the different patients laboured; the first required longer time and more attention than either of the others, because the palsy, and its consequences, added to what might have been natural delicacy of constitution, rendered him less susceptible than either of the others, to the changes that were necessary to complete his cure; the second only laboured under indifferent health, without any disease, was cured in less time; and the third patient, who, through her whole life enjoyed a high state of health down to the time that she came into my hands, was cured in less time than either of the others, although she was older than they were; and the distortion of the foot, that was equal to either of them, was cured in much less time. This difference of the time that must be employed to cure these, being proportioned to the strength of the patient's constitution, and the state of their health at the time, may be better explained by what takes place in those children whose feet are deformed before the birth; of these, many hundred cases have passed through my hands; and by the result of experience, which I have, by these means, obtained, I am enabled to state the following facts:—

In children, whose feet were deformed before the birth, I have seen every variety, both of the degree of distortion and strength, or debility of constitution; and whether the cures were undertaken immediately after

the birth, or at a later period, the variations between the different classes of patients were proportioned to the state of their health. When children are born with great constitutional weakness, and have their feet distorted either little or much, I have always been able to restore them to their natural form, by using a small power, and for a moderate portion of time; but, in these cases, the after treatment, as I shall call it, has always been, and will always be, more tedious and vexatious to the mere bystander, because the alterations are not *visible*, and the anxious parent can only have the assurance of the operator that it is in a fair way, and ultimately will do well. I have, in some of these cases, had occasion to attend them for years before they were quite well.

When the children are born with good constitutions, high health, bodies strongly formed, large, perhaps, and with their feet rigidly fixed in their deformed state, the case is very different; the deformed condition of such feet can only be overcome by gentle means, long continued, and with great caution. The strength of the bodies of such patients renders them peculiarly liable to inflammation, if a strong power is applied; it was a case of this kind, which I have already alluded to, that destructive inflammation was brought upon a patient by the use of much power by a very ignorant person. The operator was the wrong Sheldrake, as Dr. Neale called him.

To treat cases, of the species that I am now describing, successfully, when the malformation is great, the contraction is rigid, and the patient evidently of great strength in proportion to his age and size, a very small power should be employed very gently at first; it should not be suffered to remain more than twenty-four hours in the same situation, it should then be removed, and changed so that it shall act in a different direction and different degree. By proceeding carefully in this manner, after some time the distortion will yield gradually and gently, and after some time the contraction will yield, and by perseverence in this mode of proceeding, be finally eradicated.

There is a very great distinction to be made between these cases, where strength of constitution is the leading characteristic, and those in which the principal characteristic is debility: in the latter, the reduction, by what I have called the first process, is very easily made, but the after treatment is very tedious; but in the former, the reduction is necessarily tedious, and the after treatment quite the reverse. I have known many of these cases where the distortion has been very great and rigid, and where the patient had high health and great bodily strength, after a long and great exertion to reduce a foot into its natural form, for a few months, and sometimes a less time, confinement has given to the patient the full use, and permanent form of his legs, and he has never had a relapse of the former distortion.

I am now entitled to conclude, from what has been said, that in every case, whatever may be the degree of distortion, if it does not originate in some constitutional disease, or is not co-existent with any local disease in the same part, and where it can be easily ascertained that the apparent loss of power, and change of form, have been produced by the cessation of action, may, whatever is the extent of the infirmity, be restored to the form and use of their limbs, by steadily pursuing the plans that have been now explained, and which I have always found successful in my very long and extensive practice. This can only be done, however, when the well-educated and skilful practitioners of surgery will take the management of these cases into their own hands; when this is done, the persons who labour under these misfortunes will no longer be the dupes of a set of persons to whom they have long been a prey: these persons were once generally known as truss-makers and shape-menders, but now, by an exertion of impudence, call themselves surgical mechanicians and mechanical surgeons, a title which, if the Royal College of Surgeons suffers to exist before their faces, will bring upon themselves merited disgrace.

I will, if you approve, in my next, send an account of some cases which, in their general appearance, resemble those which have now been mentioned, but differ from them in being *absolutely incurable*; this being the case, it appears to be important that the means of distinguishing them should be known.

I am, Sir, yours, &c.

T. SHELDRAKE.

No 73, Great Titchfield Street,
Portland Place.

OPERATION OF LITHOTOMY.—REMOVAL OF A CALCULUS WEIGHING FOUR OUNCES.

Mr. HODSON, of Lewes, performed the operation of lithotomy on the 28th ultimo, and extracted a calculus, weighing *four ounces*. The patient, a middle-aged man, has done well. The *double-edged gorget* was used on this occasion.

THE LANCET.

London, Saturday, July 26, 1828.

It would be well, perhaps, for the interests of humanity, if a Coroner's Inquest were held in every case of death occurring in public hospitals, or workhouses, as well as in all instances of death occurring within the walls of prisons. The law requires that Inquests shall be held in the latter cases; and upon what principle? It enjoins inquiry upon a principle of benevolence, that it may be ascertained whether inhumanity, or negligence, has occasioned or accelerated the death of men, whose condition is, for the most part, destitute and friendless, and who are therefore peculiarly exposed to the liability of being neglected and maltreated. We are aware that the bare suggestion of an analogy between the situation of those whose offences or misfortunes may have exposed them to die from neglect in goals, and that of patients whose poverty or misfortune may have occasioned their death, from a similar cause, in our public hospitals, will be received, in particular quarters, with a show of virtuous indignation. Persons of a delicate sensibility may be shocked at the imputation which such a suggestion appears to cast on the management of our public hospitals, and may refuse to believe in the existence of irregularities at institutions, where they have always understood that the poor are treated with as much care and attention as their betters. But we would rather deal with facts, than with feelings; and the evidence of facts demonstrates, that cases in which patients are destroyed by the ignorance, negligence, or misconduct of hospital functionaries, are of sufficiently frequent occurrence to warrant us in suggesting the expediency of holding a Coroner's Inquest in every case of death occurring within the walls of a hospital. If the death of a patient be clearly attrilebutab either to negligence or want of skill on the part of a hospital surgeon, or to the misconduct of any other functionary, justice and humanity alike demand that the fact should be put upon record.

But we are told by those, whose interest it is that we should believe in their purity and benevolence, that the manner in which our public hospitals are conducted renders all scrutiny and inquiry unnecessary; that the funds of those institutions are scrupulously appropriated to the objects to which they ought to be devoted, and that the functionaries connected with these establishments are all distinguished for the disinterested zeal with which they strive to administer to the wants of their suffering fellow-creatures. Now we delight in fine sentiments as much as any of our neighbours or contemporaries can possibly delight in them, but we are nevertheless of opinion, that the feelings of men, considered without reference to their interests, afford a very indifferent security for the purity of their conduct. Heaven help the destitute sick, say we, if they had no better security against neglect or maltreatment, than the disinterested satisfaction which hospital functionaries derive from administering to their necessities! It happens, fortunately for that portion of the community which is compelled to seek relief in our hospitals, that the interest of hospital functionaries conspires with their duty; but let it be recollected, that this coincidence of interest and duty would, in a great degree, cease, if the incapacity or misconduct of those functionaries could be effectually concealed from the public eye.

The law of this country, as we have seen, wisely presumes that, in cases where men most need the humane offices of their fellow-creatures, those humane offices are most likely to be denied; and it therefore provides, that when men die in captivity,

an inquiry shall be made into the causes of their decease. The best security against negligence or misconduct, in all cases, is the certainty that such negligence or misconduct will be visited with exposure, and, if necessary, with punishment. The publication of Hospital Reports, which originated with this Journal, and which the profession may now regard as one of their indefeasible rights, affords, undoubtedly, one great security against the negligence or misconduct of hospital functionaries; and, if the practice of holding Inquests on the bodies of all persons dying in hospitals were adopted, the security to be derived from publicity would be complete.

Let any man who is not prepared to defend all the instances of abuse or negligence that occur in our charitable institutions, read the case reported in Number 253 of this Journal, (THE LANCET, p. 444,) let him reflect that cases similar in atrocity to this are constantly occurring in our public hospitals, and let him then say whether the suggestion above made be wholly unnecessary or uncalled for. In the case to which we refer, a boy, having been knocked down in the road by a horse and cart, received a cut in the head, and was carried to St. Bartholomew's Hospital. On his admission, he was labouring under symptoms of concussion; a dose of calomel and jalap was ordered for him, and on the following day he became sensible; but as his bowels had not acted, the calomel and jalap were repeated. As his bowels were still torpid, an enema was ordered towards the middle of the day; the boy continued sensible during the remainder of the day, but appeared to be in great agony, and expired about a quarter past eleven the same night. On the *post mortem* examination, it appeared that there was a slight fracture of the base of the cranium, with some effusion of blood beneath the dura mater, and this Mr. VINCENT supposed to be sufficient to account for the sudden death of the boy. But Mr. CASWELL, the house-surgeon, on proceeding to examine the abdomen, after Mr. VINCENT, the Hospital surgeon, had left the dead-house, discovered a quantity of light-brown fluid floating in the cavity of the peritoneum, which peritoneum also exhibited marks of inflammation. This led Mr. STANLEY to trace the intestines to the rectum, when he discovered *a hole in the anterior part of the rectum, leading into the cavity of the peritoneum.* It was immediately suggested by Mr. CASWELL, the house-surgeon, that the gut had been perforated by the pipe of the syringe, and, upon further investigation it was discovered, that the light-brown fluid in the peritoneum was *oil*, and that the pipe of the syringe, which was of metal, and of a most unwarrantable length, namely, *seven* or *eight inches*, exactly corresponded with the perforation of the rectum. It was further ascertained that the nurse who gave the enema, remarked in the morning that she had never experienced so much trouble in throwing up an injection, and it also appears that this woman has been subsequently discharged on account of drunkenness and other misconduct. Now the cause of this poor boy's death must be manifest to all professional men. The boy had partially recovered from the effects of the concussion on the day following the injury of the cranium; no severe symptoms were present, and the fracture was too slight to account satisfactorily for his sudden death. The fracture *might*, indeed, have produced death, but the forcible injection of an enema into the cavity of the peritoneum, was almost *sure* to destroy the patient. According to all medical probabilities, therefore, it is a false conclusion to ascribe this boy's death to the injury of the cranium, and not to the negligence—the subsequent discharge of the nurse justifies us, in all probability, in saying—the criminal negligence of the Hospital functionary. And this leads us to say a word or two on a point to which we have frequently called the attention of

our readers, namely, the impossibility of adequately discharging the duties of the office of Coroner, without a thorough knowledge of medical science.

The Coroner's Inquest is, in respect to its object and tendency, one of the most useful institutions in this country; but its utility is greatly limited, and in many instances entirely defeated, by the inefficiency of the individuals who, for the most part, fill the office of Coroner. The fact is, that in almost all the cases which come before the Coroner, the question to be determined is of a medical, and not of a legal character. The statute of the 4th Edward I., which comprehends nearly all the law relating to the office of Coroner, is a short act of Parliament, which any man who runs may read and understand. Any man of ordinary understanding, who has read this statute, and who has served occasionally as juryman, or witnessed a few trials, so as to acquire some general information as to the common rules of evidence, is competent, as far as legal qualifications are concerned, to discharge the duties of the office of Coroner. But the medical qualifications which would enable a Coroner to discharge with efficiency the duties of his office, are of a far higher order, and can hardly be expected to be possessed by any man not a member of the medical profession. Questions constantly arise, in the course of inquisitions before the Coroner, which demand an intimate acquaintance on the part of that officer, with anatomy, pathology, chemistry, and therapeutics. The very *gist* of these inquiries, in all cases of difficulty or doubt, involves a medical question, which can only be adequately determined by medical men. To determine whether the death of the deceased arose from natural or violent causes; to judge whether a particular injury is capable of producing the effects supposed to have resulted from it; to decide whether poison has or has not been taken, and to distinguish between cases in which a poisonous substance may have been administered with a guilty intent, and where it may be presumed to have been given as a therapeutic agent—such are the points on which a Coroner is perpetually called upon to inform and direct a Jury, and on which, without a medical education, it is impossible that he can himself arrive at sound and satisfactory conclusions. Paris and Fonblanque, in their Medical Jurisprudence, feeling the necessity of medical information to a due discharge of the duties of the office of Coroner, recommend the addition of a medical assessor to assist that officer in the holding of Inquests. But this is advising the repair of an old building, when the cheaper and wiser course would be to pull it down, and erect a new edifice on its site. Why retain machinery, which is confessedly inadequate to the object it was intended to accomplish? If medical men are best qualified to discharge the duties of Coroners, why not appoint them in place of those low and incompetent persons into whose hands we find Mr. Justice Blackstone complaining that the office, in his time, too frequently fell?

Scarcely a week passes, without furnishing some striking instance of the imbecility and ignorance of Coroners. The following case, which we take, omitting irrelevant matter, from *The Times*, affords a fair specimen of the average judicial ability exhibited by the modern Dogberries who fill the office:—

"At an Inquest, held before Mr. Stirling, on the body of Prudentia Mercer, the wife of a chemist and druggist;

Sarah Gibbs said, that she was called up at half-past twelve, to her mistress, who, she was told, had taken poison. She found her mistress quite dead. A bottle was missing from the shop; she made search for it on the following day, and found it in the closet under some dirty clothes. Mr. Mercer, her master, told witness that Mrs. Mercer had been in the habit of taking the stuff, that caused her death, in water, for a spasmodic complaint, by order of a medical gentleman, named Anderson.

Mary Jones corroborated this testimony. The phial found under the dirty clothes con-

tained about a quarter of a tea-spoonful of the preparation; she delivered it to the beadle; thought Mr. and Mrs. Mercer were living on good terms; and that Mrs. Mercer did not enjoy very good health.

Thomas Scott knew Mr. and Mrs. Mercer intimately; to his knowledge the deceased had been in the habit of taking hydrocyanic acid for a pain in her stomach; he had administered some to her frequently, as had also Mr. Mercer, her husband. She generally took two or three drops, sometimes two or three times a day; had seen Mr. Mercer take some of the stuff up to his wife, and had seen her take it herself. He never entertained any doubt of her sanity, and believed that she had taken too much of the prussic acid, by mistake.

Mr. R. Gordon, surgeon, went to the deceased on being informed that she had taken poison; found her dead in bed; there was a strong smell of prussic acid in the room, and there were three or four drops of it in a cup on the mantle-piece.

Mr. Kelly, surgeon, was acquainted with the deceased; was aware that she was in the habit of taking prussic acid, and warned her not to do so, as it would tend to debilitate her. He drank some ale with the deceased in the evening, a few hours before her death; two pots of ale were drunk among four of them.

Eleanor Colley, servant at the Somerset Arms, deposed, that she took a pot of ale to Mr. Mercer's, in the evening; Mrs. Mercer took the ale from her, and witness observed a phial in her hand, which the deceased rolled in paper, and put into her pocket.

The Coroner addressed the Jury, and observed, that up to the evidence of the last witness, he had *some doubt* as to the administration of the prussic acid; but it was quite clear that she had taken it herself, *inasmuch as* she had been in the habit of taking small quantities of the poison to lull her spasms, therefore she must have known its dangerous effects; and if her husband, or any other person, had attempted to give her a larger quantity than she had been used to, she would, *of course*, have rejected it. It was quite clear, in his opinion, that she had taken it herself, and that she had taken too large a quantity. It was for the Jury to say, from the evidence, whether she was *sane* or *insane* at the time she took it. The Jury, after some consideration, found that the deceased had poisoned herself with Prussic acid, in a state of *temporary derangement!*"

A conclusion truly worthy of the sapient instructions under which the Jury are said to have returned their verdict. It is scarcely necessary to observe that, in this case, there was no conceivable ground for doubting that the deceased died from the effects of prussic acid; that there was no reason to doubt that she took it herself, although the reason assigned by the Coroner for that conclusion was most ridiculous; and that there was not a tittle of evidence to justify the Coroner in raising the question of her sanity, or, indeed, to warrant any other conclusion, than that she accidentally took too large a quantity of the medicine. To a medical Coroner, however, this case might well have suggested the propriety of making some stronger observations than those which are reported to have fallen from one of the witnesses, on the abuse of a medicine of such Herculean power as the hydrocyanic acid.

A Barrister of the Court of Chancery having been lately called upon by Dr. P—— to say grace before dinner, was unable to obey the summons in the usual form, but delivered himself of the following *extempore* prayer: "For the first and second courses let us all be truly thankful, and for all the courses that may follow, strengthen our appetites, O Lord!"

TINCTURE OF ERGOT OF RYE

The subjoined is a formula for the preparation of the tincture of ergot of rye, used by a friend in extensive practice:

Ergot of rye, bruised, one ounce.

Boiling water, two ounces. Infuse for twenty-four hours, and add rectified spirit, one ounce and a half. Digest for ten days.

Half a drachm of this tincture is said to be equivalent to ten grains of the powder.

DR. MACKINTOSH'S EXPERIMENTS WITH THE TARTRATE OF ANTIMONY.

Experiment 1.—John Alexander; disease, syphilis. At twelve o'clock, the pulse beat 66, and of moderate strength; he had had no food for four hours; grs. vj. of tartrate of antimony were given in half an ounce of water. At half past twelve, there was no change in the pulse; slight nausea. At one o'clock, he vomited once; complains now of considerable nausea; pulse 70, rather stronger. At half past one, pulse 72, still fuller; complains of slight nausea, which soon afterward, however, went off; there was no tendency to perspiration, either during the operation of the medicine or after it. The matter vomited was small in quantity, and resembled thick viscid mucus, which adhered so firmly to the side of the vessel that some trouble was required in cleaning it out. No unpleasant effect followed this experiment.

Experiment 2.—Joseph Pemberton; induration and enlargement of the testicle, which was of a scirrhous hardness. Before the administration of the medicine the pulse was counted, and beat 75. At twelve o'clock, grs. xij. of tartrate of antimony were taken in ℥ss. of water, which did not produce vomiting till fifty-five minutes had elapsed. The quantity discharged was small, and consisted of yellow-looking mucus, so tenacious that it was difficult to separate it from the sides of the vessel; pulse 80; complains of considerable nausea, with giddiness, and pain at the pit of the stomach. At two o'clock, he complained still of great nausea; had vomited frequently small quantities of the same matter; the pain at the pit of the stomach had extended over the belly, and was increased by pressure; pulse 85, and very weak; it was found to be much weaker in the left arm than in the right, and what is very curious, it was observed by all present to be much slower. At three o'clock, nausea had continued, with occasional vomiting of a small quantity of the tenacious mucus; no drink has been allowed, except one mouthful of water; he complains now of very violent burning pain in the region of the stomach, which is increased on pressure; pulse 92, and very weak; a considerable quantity of mucus has, altogether, been vomited, although little was discharged at a time. At four o'clock, had a large stool; he had now given to him a tumbler of warm lemonade, and was ordered half an ounce of castor oil, and some tea afterwards. At seven o'clock, the pain and all the other symptoms had entirely subsided, and he afterwards passed a good night, during which he had three copious evacuations and one scanty stool. On Monday he was quite well; pulse 80, and the enlargement of the testicle was found to be diminished about one-third of its former bulk. This patient had taken no food for four hours previous to the administration of the tartrate of antimony.

Experiment 3, was performed on the subject of the first. Pulse 70, and of good strength; grs. vj. of tartrate of antimony were given in one ounce of decoction of bark, which did not produce vomiting for two hours. The symptoms were exactly the same as the day before; the pulse rose to 76.

Experiment 4, performed upon the subject of the second. Pulse 60, and of good strength. At twenty minutes past eleven o'clock, grs. xij. of tartrate of antimony were given in ℥j. of decoction of bark; in half an hour afterwards, the pulse was found to be the same in frequency, but rather diminished in strength, and he complained of slight nausea; in an hour from the exhibition of the medicine, vomiting took place, without being preceded by the violent nausea which he had on the former occasion; he discharged a considerable quantity of the same kind of mucus; pulse 64, much weaker; has no pain in the stomach; countenance natural. He vomited again at half past twelve, and again at one o'clock; had a large stool at two, and another at three o'clock, at which last mentioned time the sickness had ceased; he had no pain any where; slept well during the night, and no unpleasant consequences followed. On Wednesday he was in usual health.

Experiment 5, performed on the subject of the last. Friday, 5th March. At twelve o'clock, pulse 72, and of good strength; took grs. xx. of tartrate of antimony in a little sugar; in twenty minutes, vomited without any of the preceding symptoms; has no pain. At the termination of three-quarters of an hour, pulse 80, of same strength; countenance unchanged; does not feel so much debility as on Sunday; has no uneasiness whatever; vomits a small quantity at intervals, without any nausea, or sensation of debility. At the expiration of an hour, pulse 88; all other symptoms continue the same. On the following day he was quite well; the enlargement of the testicle continued to decrease; in a short time it was considerably reduced, and was soon quite cured.

Experiment 6.—A. B., who had no complaint, but pretended to have one, at eleven o'clock took ℈j. of tartrate of antimony; in half an hour violent nausea was induced, but vomiting did not commence till two p.m., after which it became more violent till three, when it seemed at its height; a quantity of bile was at first ejected, afterwards painful strong retching, with an obtuse fixed

pain at the epigastrium, which was always referred to the same spot, and accompanied by great thirst; a slight discharge of mucus at intervals ensued. About four p.m., the above-mentioned symptoms gradually disappeared, and were succeeded by great and universal prostration of strength; two very copious, bilious stools were passed. In the evening, after taking some warm tea, a profuse perspiration broke out, which appeared to be the last effect of the medicine; passed, on the whole, a comfortable night, although sleep was often interrupted; awoke in the morning refreshed, and without any feeling of uneasiness.

Experiment 7.—E. T., a female servant, during a slight relapse from simple fever, produced by cold, and when suffering from heat of skin, headach, and thirst, with pain in the back, quick pulse, and restlessness, took two grains of tartrate of antimony in ʒj. of water, at seven p.m.; immediate nausea; vomited, in about an hour and a half afterwards, a considerable quantity of mucus, mixed with dark, bilious secretion. At eleven o'clock, took one grain in ʒss. of water, after having felt for some time quite easy; immediate nausea produced by this second dose; vomited, in an hour and a half, a considerable quantity; had a large basin of warm gruel with the second dose. At the termination of two hours and a half, sickness and nausea ceased. At two a.m., had gr. j. in ʒss.; felt nausea, but no vomiting; had no gruel, or other drink, with this dose. At five o'clock, a copious perspiration broke out, which served to relieve the sickness, but she had a little increased headach, and pain at the pit of the stomach. At six a.m., took grs. ij. in ʒj., and soon after about an English pint of gruel; felt slight nausea at seven, but no vomiting; continued copious perspiration till eleven o'clock. At this period the febrile symptoms became more moderate, and she was perfectly recovered in the course of two or three days. From the hours at which she took the antimony, no opportunity was afforded of ascertaining whether any change was produced on the pulse by it.

Since the period at which these experiments were performed, I have frequently given two scruples of antimony in the course of twenty-four hours. In one case it was continued in that quantity for three days, without producing vomiting, pain in the abdomen, or any effect whatever on the pulse; these were cases of severe pneumonic inflammation.

Many of your readers will recollect, that these experiments were performed in consequence of an erroneous statement made by a gentleman in the Royal Medical Society, who assured all present, that he had frequently seen a drachm of the tartrate of antimony given for a dose, on the Continent, by Laennec; and they will also remember, how angry the gentleman was made by questions put to him, as to whether he might not have been deceived! We are now better acquainted with Laennec's practice, and the gentleman alluded to had only made the trifling mistake of a drachm for a grain.

31, Albany Street, Edinburgh,
14 June, 1827.

THE PUNCTURED RECTUM AT ST. BARTHOLOMEW'S.—MR. CASWELL.

To the Editor of THE LANCET.

SIR,—Relying implicitly on the impartiality of your disposition, permit me, in allusion to the *punctured rectum* case at this Hospital, that appeared in your valuable Journal, a short time ago, and in addition to what was subsequently announced to your correspondents regarding the expression, under a *mistake*, attributed to *Mr. Caswell*, most unequivocally to state, that when a certain individual (whose name you have mentioned) said, "let's hush it up; it had better be hushed up—it had better be hushed up." Mr. Caswell observed at once, "why hush it up? Why should you do that? Why should you attempt such a thing; because I shall have to state the fact before the coroner, and then it will go through all the papers."

Mr. Caswell, too, insisted before the coroner, contrary to that gentleman's feeling, that the enema, if not the immediate cause of death, greatly hastened it.

In complete justification of that gentleman, I flatter myself you will give a corner to these few lines, especially when I conclude by observing, that I have the most satisfactory evidence for believing, and I shall be greatly astonished if ever I have occasion to alter that sentiment, that Mr. Caswell falls completely within the description of the *sect*, to which I have the honour of belonging, at this end of the town, namely,

A LIBERAL,

And yours most obediently.

St. Bartholomew's Hospital,
12th July, 1828.

DR. HARRISON.

To the Editor of THE LANCET.

SIR,—The following letters will probably form the prelude to something of deep interest to a respectable portion of the profession. You will oblige many of your readers, (as well as myself) by giving them insertion, and, in proper time, the sequel of this curious affair shall be forwarded.

I am, Sir,
Your obedient servant,

July 17. JOHN GORDON SMITH.

(COPIES.)

I.—*To E. Harrison, Esq. M. D.*

July 15, 1828.

My dear Sir,—I owe it to my own habit of adopting, at least, *plausible* opinions, and of taking nothing upon hearsay, to confess that, after perusing the newspaper report of the recent trial between the college and yourself, I feel (as many others seem to have done) A PROFOUND AND INEXPRESSIBLE DISAPPOINTMENT.

Having been, at one time, (as I thought) so deep in your councils on this truly important matter; and having been induced (from a firm belief that you meant, in your own person, to vindicate the rights of Scottish graduates in medicine) to bring the powerful arm of the public press to your assistance, whereby I have been *prominently* involved in a measure dangerous to my welfare and respectability; as a professional man, I feel myself fully authorised to ask you for some explanation—not to me, as a private friend, but as a sort of organ of the INDEPENDENT PHYSICIANS of this metropolis, whose interests appear to have been abandoned, by the line of defence adopted on your part.

But—as on the score of private friendship, I acknowledge myself to lie under obligations to you; and as it would be with very painful reluctance that I should be compelled to abate my regard, or even to alter my opinion, I am still fain to be persuaded that, notwithstanding what is before the public, you have acted with propriety; and if I can, consistently with my own views of professional and public duty, advocate your cause, my abilities (such as they are) and my pen are at your service.

I remain, dear Sir, &c.,

(Signed) JOHN GORDON SMITH.

P. S. I shall, in all probability, have to make this letter public.

II.—*To Dr. Gordon Smith.*

July 15.

My dear Sir,—I am rejoiced to learn, by your letter just received, that you are engaged in making a report of the trial instituted against me by the College of Physicians. In order to assist you in the undertaking I will, with pleasure, lay before you a copy of the brief, and of all the papers in my possession, relating to the trial; you will then see my instructions to counsel, and the exertions I made to bring the whole question before the public.

I am, dear Sir, faithfully yours,

(Signed) EDWARD HARRISON.

Will you breakfast with me to-morrow?

Before this matter proceeds any farther, I am anxious to communicate to the profession the following circumstances:—

1. I have never entertained the least doubt as to the *right* of SCOTTISH doctors, (of *whatever* university) to practise AS PHYSICIANS in London, without respect to the authority of the Royal College of Physicians.

2. Previous to the trial in question, I was confident that Dr. Harrison would prove, whenever it might be necessary, a staunch and fearless assertor of the right in question.

3. I was one of several PHYSICIANS who advised Dr. Harrison *not* to furnish the college with the evidence against himself, which many seem to think he ought to have surrendered. I am JURIST enough to know that such a measure runs the risk of being interpreted into a vain and vapouring eagerness for litigation, and into a desire to set the college at defiance, which would probably have operated to the disadvantage of the cause in the minds of the jury.

4. Since the month of October, 1827, I had taken no part or concern in the misunderstanding, whatever—what I had previously done, I am on the point of avowing—the decision, or rather the ostensible plea urged for the defendant has in no way altered my persuasion, that I am in point of LAW, as well as of *common sense* and *decency*, as eligible to medical honours in London, as the President of the Royal College of Physicians himself. For about a month previous to the trial I had neither seen nor held any correspondence with Dr. Harrison, and no person whatever could have read the report of that trial with greater *surprise* than I did myself, both as an unexpected transaction, and a most curious and unforseen result.

Lastly.—These letters have been written, and copied for publication, and the foregoing observations have been committed to writing the day before. If I can possibly avail myself of the invitation forwarded by Dr. Harrison, I intend to accept of it; and the issue SHALL NOT BE CONCEALED.

Tuesday, July 15, 1828. J. G. S.

DR. GORDON SMITH TO THE EDITOR OF "THE LANCET."

SIR,—The preliminary remarks on the trial between the College of Physicians, and Dr. Harrison, which I forwarded to you last week, not having made their appearance, I write to you now, under some uncertainty as to your idea on the subject of publishing them. If you decline doing this service to a cause of some importance, you will be pleased to return the papers, in order that I may prepare a separate pamphlet; but if they are destined for insertion, pray set me right, by some intimation to this effect. In the mean while I shall go on with the subject, careless of what you or any other person may chuse to think of its merits. For my own part, *I know what I am about.*

The morning after I transmitted my former communication, I proceeded (according to invitation) to the house of Dr. Harrison. I found him alone, in his study; and ere I had taken a seat, I put the following question to him: "Dr. Harrison, before we proceed farther, allow me to ask whether the defence recently resorted to was your own, or that of your counsel?"—"That of my counsel, to be sure," was the answer. * I was then put in possession of *the brief*, which contains the notes made in court, by Mr. Campbell, *the order of defence*, as suggested by Dr. Harrison, and engrossed by his solicitor, with a very *forcible* but *temperate* reply to Dr. James Johnson, intended for transmission to THE LANCET. I then went on to say, "My dear Dr. Harrison, I will now partake of your breakfast with no ordinary pleasure. I am satisfied; our brethren shall be so; and as for Dr. Johnson he is not worth your notice;† leave the whole matter to *me*. Reply to NO ONE. As a medical jurist, I will carefully condense all that you can desire to be submitted to the profession, and I have no doubt that the Editor of THE LANCET will lend us the gratuitous aid of his Journal, if not, we shall make a separate publication of what we know, and discharge our duty as becomes men of character and independence."

The documents I have now upon my table are far too voluminous for any Journal; but from a superficial view of them, I am much gratified in being able to assure all concerned, or interested in the matter, that Dr. Harrison met the grand question *manfully*, and was *resolute* in his own *mind* on the score of defence. The trial came on at singularly short notice, and I myself, who almost expected to be closetted with Dr. Harrison's solicitors (if not with his counsel) was perfectly thunderstruck on

* I have since had an interview with my own solicitor, who, having made the incidental remark that "Harrison had got a verdict upon a technical point," I replied, that I was not sorry to hear that from him. The gentleman then observed, that "no one who knew any thing about such matters, could doubt for an instant that it was A LAWYER'S defence."

† I once had *some* respect for the editor of the Medico-Chirurgical Review; but he has of late been at such pains, by a series of paltry, clumsy, and miserable tricks, to write himself up, at the expense of candour, common sense, and (really one can hardly help adding) *truth* itself, that I am compelled to turn my back upon him. Does he really imagine that the medical profession is composed of such indescribable numsculls as will believe his twaddling blarney about being "the *only* journal that has resisted the College?" *Mihi beate Martine*, Mr. Editor of THE LANCET, what do you say to this? And you of the Gazette of Health, come forward, speak for yourself, man, you can when you like. And there are our friends "i' the north." Old medical and surgical, are you going to pocket it?

If *you all* do, Gentlemen, I can assure you that I will not. For, when I was Editor, sole and uncontrolled, of the London Medical Repository, from July to November inclusive, last year, I happened to write a few papers on "The State of the Question," out of my own head, and with my own hand, sometimes when other people were asleep, and sometimes when they were awake—but never, upon my honour, when I was asleep myself; which papers certainly were read by *two* people at least, to my knowledge, and one Dr. Johnson was of the number. Really SAMUEL SOLOMON,* this is too bad, you should not come from the churchyard and terrify people, by pulling your liver about in this horrible manner. Now we have made an allusion to the late Repository, I hope the Editor of THE LANCET will allow me to do *myself* a morsel of justice, by assuring my friends (I shall not talk of the public) that since the November Number, I have had no concern in the muddling up of this Journal; and that I am now perfectly unconnected with its proprietorship, editorship, contributorship, subscribership, and *readership*! It is a literal fact, (albeit I may find some difficulty in being *believed* when I state it,) that although I have the Repository from the very beginning, in the year 1811, down to October, 1828, I have not so much as seen it since. How it came into the possession of its present proprietors, I may hereafter reveal; in the meantime, if they will take a friendly hint from an old soldier, they will keep their names off the cover.

* Thank you, Mr. ANTIJACOBIN, of Knickerbocker's Town. See LANCET of this day.

reading the first communication respecting it, in the newspaper report of the *result*.

I am happy, however, that I did not give way to the first impulse of disappointment, and join in the cry against the defendant. His counsel acted with the greatest propriety and dexterity. Finding that he could not raise the points of *law* which he was instructed to argue, he resolved to attempt getting his client safe out of court, and, as we have seen, made a successful application to the jury on the point of *fact*.

Dr. Harrison has got a verdict—that may be no great cause of triumph. Physicians of *Scottish* Universities could have wished it had been otherwise, for the grand question remains where it was. But men of sense cannot shut their eyes to the consequences that would have ensued, had the matter gone the *other* way. We have to thank Mr. Campbell for a service, which it is not very creditable to those who pretend hostility to the College, to have been so little able, or inclined to appreciate. For my own part, I have a profound personal respect for all the *Fellows*; but I have never courted or curried their favour. With two or three of them I have the pleasure of being acquainted, and I think I have shown that I esteem them, as they are fully entitled to be esteemed; but I beg to assure all present and future censors, that I will put them to a world of trouble, if ever they act upon the idea of making me a *licentiate*.

These gentlemen are now reduced to the following alternative (venturing their cause again in the hands of a jury being altogether out of the question): they must either obtain the powers they certainly do not possess, from the legislature, or refuse to meet those who disown their authority. It may save some estimable individuals from pain, and some amiable families from sorrow, if I declare it to be within the scope of my private knowledge, that if this unpardonable insult be repeated, there is a great probability of some GENTLEMEN taking the law into their own hands.

I am, Sir,
Your obedient servant,
July 21. JOHN GORDON SMITH.

MEDICAL FUND FOR WIDOWS AND ORPHANS.

To the Editor of THE LANCET.

SIR,—From the interest, zeal, and promptitude, which the pages of THE LANCET have uniformly displayed in furthering any object, calculated to add to the advantage and respectability of the medical profession, I am induced to submit for your consideration the following proposition, in the hope, that should it appear to you that there would be any probability of carrying the scheme into effect, you will allow the pages of your most invaluable publication to be the vehicle of communicating the same to the profession.

From a variety of causes it frequently happens that medical practitioners are prevented from making a suitable provision for their families. The constant and laborious duties of their profession (particularly in country practice); their frequent exposure to the inclemency and vicissitudes of weather, and to the influence of contagious diseases, render the tenure of life more precarious in the medical than in almost any other profession, while the necessity of keeping up a respectable appearance on a (frequently) very limited income, which, from local situation, may not admit of increase, with various other causes, must operate on a very great proportion of the profession in preventing their saving any thing out of their income for the future support of their families, in the event of death or sickness.

From the circumstance of married men being likely to obtain a greater share of practice, particularly as accoucheurs, it often happens that young men are induced to enter into the married state earlier than prudence would otherwise dictate; and as a natural consequence an early and numerous family are to be provided for, while the means of making a suitable future provision are proportionably abridged.

A fund has been established in the army, and is now in successful operation, for granting pensions to the widows and orphans of medical officers; and a similar establishment, exists in the medical department of the Honourable East India Company's service. It appears to me, therefore, that a fund, on a similar plan, might be instituted for granting pensions to the widows and orphans of medical practitioners of the United Kingdom.

It is not my object at present to enter into the detail as to the means of carrying this matter into effect; all that I have in view now is to ascertain whether the proposition will be likely to obtain the approbation of the profession; and should it meet that encouragement which its importance, in my opinion merits, I would then suggest some preliminary arrangements towards carrying on the plan.

I would, therefore, with your concurrence, unite such members of the profession as may conceive the scheme desirable and practicable, to communicate their names to you; and should the measure meet with support, I shall hope, through the medium of THE LANCET, to hear the sentiments of the medical public on the subject.

I have the honour to be,
A MEDICAL BENEDICT.

GUY'S HOSPITAL.

OPERATION OF LITHOTOMY, BY MR. KEY.

On Tuesday, July 15th, Mr. Key performed the operation of lithotomy upon a boy six years of age. The patient was sent from Dover, and had had symptoms of stone in the bladder for the last two years. The operation was performed with *the straight staff*, in the usual manner. The calculus was as large as a common walnut. It had a rough appearance, externally, very much resembling a mulberry calculus. It was a bright yellow colour when first extracted, but was coated with lithic acid, having a mulberry nucleus. The patient was put to bed, and a dose of the syrup of poppies administered. *The calculus was extracted in less than* 90 *seconds.*

16. We visited the child early this morning, and found that he had passed a good night. The pulse was tranquil and soft. The skin not above the natural temperature, and the urine had flowed freely through the wound.

17. The child is doing remarkably well. Last evening an aperient powder was given, which produced five or six copious evacuations. A small quantity of urine flowed through the penis to day for the first time, and was attended with very little pain.

22. The patient, up to-day, has not had a bad symptom. The urine flows both by the penis and the wound in perinæo. The wound itself is gradually uniting.

COMPOUND FRACTURE OF THE SKULL, WITH DEPRESSION, UNATTENDED WITH SYMPTOMS OF COMPRESSION.

Edward Browne, ætat. two years and a half, was admitted into Chapel Ward, on Friday, June 4, under the care of the senior surgeon.

The friends stated, that the injury was occasioned by a brick falling upon the head. The child appeared to be merely stunned by the blow, but was not rendered insensible. He was immediately afterwards brought to the hospital, where, on examination, it was found that there was a considerable wound of the scalp on the upper part of the frontal bone, rather inclined to the right side, and that there was also a fracture of the skull, with depression.

At the time of admission, his pupils were scarcely more dilated than natural, and readily contracted on exposure to light. There was no vomiting, and, in fact, the child did not appear to be at all affected by the accident. The wound was lightly dressed, the child put to bed, and a dose of castor oil administered.

June 21. We have visited the patient daily since his admission, and he has not had a single untoward symptom; indeed, he appears to be perfectly well.

On Tuesday week he left the hospital, as he would not bear the confinement; we have seen him since that time, and he continues well.

SEVERE INJURY TO THE ABDOMEN, FOLLOWED BY ACUTE PERITONITIS, SUCCESSFULLY TREATED BY MR. MORGAN.

William Simmonds, æt. 15, a spare and delicate lad, was admitted into Accident Ward, on the 10th of July, under the care of Mr. Morgan.

He stated that he was squeezed between the back of a cart and a fence, and the edge of the cart was forced against his abdomen. He was immediately afterwards brought to the hospital.

When admitted, the boy was in a state of collapse. He had nausea and vomiting; the surface, generally, was exceedingly cold, and the countenance excessively pallid and anxious. The pulse was small and thready, and there was considerable tenderness and swelling of the abdomen. He was immediately placed in bed, bottles of warm water were applied to the feet, and additional clothing. Five-and-twenty leeches were shortly afterwards applied to the belly, with the subsequent use of fomentations. He was ordered to take *two grains of calomel*, with *one grain of opium*, every four hours. A catheter was introduced into the bladder, and the urine drawn off. Low diet.

At 10, P.M., reaction had come on; the surface was warm; the pulse, which before was thready, was now quick and jirking, 120. The tumefaction of the abdomen had increased, and it was much more tender and painful than in the morning. The boy laid upon his back, with his knees and thighs bent upon his pelvis, in order to lessen the pain. Venesection to five ounces was had recourse to, when the pulse began to sink. He was ordered to continue his medicines.

11. He has slept but little during the night. The abdomen, though very painful, tender, and hot, is rather less tense than yesterday. The pulse is still very quick and jerking, 130; the skin is hot and dry; the tongue much furred. He has excessive thirst, and there is great anxiety of the countenance. Venesection was repeated to six ounces, when it again brought down the pulse. A calomel and opium pill was administered immediately. Eighteen leeches were applied to the abdomen, with the subsequent use of emollient poultices. He was ordered to take two ounces of the vitriolated infusion of mint every four hours. He had not, as yet, had any evacuation from his

bowels, and, in the course of the afternoon, a castor oil enema was administered, which, in the evening, brought away a large quantity of offensive feculent matter, and was productive of much relief to him.

12. He is still very feverish, and there is a great deal of tenderness and tumefaction of the belly, but the pulse is softer and less jerking, and the tongue is less furred. Venesection to sixteen ounces. Ordered to apply twelve leeches to the belly, and to continue the medicines.

13. There is a visible abatement of the febrile symptoms to-day. He has passed a good night, and the pain and distension of the belly have considerably subsided, so that he can bear pressure by the hand, without its giving him much pain. There is very little increase of heat upon the surface, and the pulse has sunk to 100, and has become soft and compressible. The bowels are freely purged. Continue the mixture.

16. The last two days he has much improved. The tumefaction of the belly has entirely subsided, and he has no pain on pressure. All his febrile symptoms have vanished, and his appetite begins to return. The bowels have been rather too much relieved, and he was ordered a mixture, with equal parts of the mist. cret. and aq. cinnam: to take a table-spoonful three times a day. Middle diet.

July 22. We have visited him daily to the present date, and he is now quite convalescent. Yesterday, he said he felt occasional gripings of the bowels, for which he was ordered to take ten grains of the carbonate of magnesia, a drachm and a half of the sulphate of magnesia, and two ounces of peppermint-water, three times a day.

Remarks.—Patient was admitted early in the morning in a state of extreme collapse, which lasted for nearly twelve hours afterwards. The painful distension and tumefaction of the belly, which followed the accident, led to the belief that the intestines had given way. As reaction came on, the patient was carefully watched; and as soon as the inflammatory symptoms showed themselves, they were skilfully and successfully arrested. The patient, indeed, has been most judiciously conducted through a severe attack of acute peritonitis.—Reporter.

ST. GEORGE'S HOSPITAL.

OPERATIONS OF LITHOTOMY.

July 3. To-day, Mr. Keate operated on a child about three years of age, for the stone. Mr. Keate performed the operation with the common scalpel, and extracted a calculus of the size of a small nutmeg; the operation was exceedingly well performed, and only occupied three quarters of a minute. We understand that it was Mr. Keate's intention to have used the bistouri cacheé; but finding the scalpel answer the purpose, he completed the operation with it.

4. The patient had a convulsive fit last night, but to day appears doing well, although some appearances are present; she was ordered castor oil occasionally.

11. Doing well.

On the same day, Mr. Keate performed the operation of lithotomy on William Collins, ætat. 16.

16. In this case, Mr. Keate used the bistouri cacheé, and a large calculus was extracted. This operation was of longer duration than the former, owing to the great size of the stone, which was nearly equal, in magnitude, to a pigeon's egg.

17. Mr. Keate saw the patient to-day. He has taken aperient medicine; his tongue rather furred; but, on the whole, is in a very satisfactory state; the quantity of the magnesia sulphur in the medicine is lessened, in consequence of his bowels being too freely acted on.

18. Doing well.

——, ætat. 2 years; this little patient, it appears, has had the usual symptoms of stone in the bladder from its birth; pain after making water, denoted by violent screaming, prolapsus of the rectum; but it cannot be ascertained whether another common symptom, bloody urine, has existed or not; the mother of the child being at present, an inpatient, at the Middlesex Hospital. Mr. B. performed the operation with the bistouri cacheé; the instrument being introduced into the bladder with the cutting edge downwards; an oblique incision was made downwards and outwards, and the calculus, which was of a large size for so young a child, easily and instantly retreated with the forceps. We think the time actually occupied in this operation could scarcely have exceeded half a minute; no bleeding occurred after the child was in bed.

In this case, Mr. Brodie proposes to adopt the practice of Mr. Hey, of Leeds; introducing a piece of sponge into the vagina to keep the opposite sides of the wound in contact.

19. She is doing uncommonly well.

After the lithotomy case, Mr. Brodie removed a large fatty tumour, situated over the left scapula; three ligatures were applied to divided vessels.

Mr. Rose removed a glandular tumour from the elbow of a lad about 17.

ST. BARTHOLOMEW'S HOSPITAL.

COMPLETE AMAUROSIS OF THE LEFT EYE, INCIPIENT OF THE RIGHT—THE AMAUROTIC CAT'S EYE OF BEER.

Robert Mason, ætat. 23, a thin delicate young man, a barber, was admitted into the Hospital, May 28th, under the care of Mr. Lawrence. He has always enjoyed a good state of health; about eight years ago, the vision of the *left* eye became affected, and has been gradually growing worse up to the present time; the last nine months the *right* eye has become dim, and black spots have appeared before it. The commencement and progress of the affection have been attended with no pain.

The vision of the *left* eye is almost totally destroyed, the patient being able merely to distinguish light from darkness; that of the *right* is more perfect, and he can read a large print. The anterior chamber in each eye is observed to be unusually small; the iris is of a dark-brown colour and transparent; the pupil is in the mid state of contraction, and sluggish, and instead of presenting its natural black colour, has a dull greyish appearance. On dilating the pupil by the belladonna, this change is very visible. At the bottom of the *left* eye, very far behind the pupil, is a *concave* opacity, of a grey or dull yellow colour, and, upon attentive examination, small blood-vessels are observed ramifying on the deep-seated opacity. In the *right* eye, the disease is not so far advanced, and the opacity is more limited, and the plexus of red vessels is not observed. Mr. Lawrence pointed out the case to the pupils as being worthy their attention, and of rare occurrence. The amaurosis was in this case dependent upon some organic disease, but it was difficult to say whether it was produced by a want of the pigmentum nigrum, or some change in the retina. The *concave* and deep-seated opacity at the bottom of the eye, was very characteristic of the affection, and from its shining yellowish appearance, the Germans had called it the *amaurotic cat's eye*. The prognosis in this case was very unfavourable. We have no means of removing the disease, or arresting its progress.

The patient was cupped from the back of the neck, and was ordered to take five grains of the blue pill twice a-day. There was no improvement in the state of vision, and he left the Hospital in a month.

On Saturday, July 12th, Mr. Earle removed a cicatrix, which followed a burn, and had produced a contracted state of the arm.

EXTENSIVE LACERATION OF THE CALF OF THE LEG, FOLLOWED BY ACUTE GANGRENE, AND DEATH.

James Corbyn, ætat. 42, a stout man, and a hard drinker, was admitted into the Hospital under the care of Mr. Lawrence, June 28, having been thrown out of a cart, the wheel of which had passed over him, and caused a fracture of two ribs on the right side, and an extensive lacerated wound of the right leg. The wound extended obliquely from below the ham, for about four inches in length, and two or three inches in width, exposing the fascia covering the gastrocnemius and soleus muscles, and producing a laceration of the muscular fibres to the extent of two inches. A large portion of skin was detached from the calf; he had lost about a pound of blood from the wound; but at the time of his admission, the bleeding had nearly ceased; a cold cloth was applied, and in the evening a bread poultice. A dose of calomel and jalap, followed by the senna draught.

July 2. The patient has gone on remarkably well until this morning, when he complained of pain in the leg, which had prevented his sleeping during the night; there were swelling, tension, and redness around the wound, and a portion of the skin which had been separated from the subjacent muscles, was of a livid hue, and gangrenous, and there was discharge of bloody-coloured serum from the wound. His pulse was not increased in frequency nor fullness, nor did it seem feeble; no heat of skin; tongue natural; bowels open. Eighteen leeches around the wound, followed by hot fomentation, and bread poultice. On the following day there was a very marked alteration, the features were shrunk, and expressive of anxiety; the pulse extremely feeble, with cold skin. He complained of being light-headed and confused, and had had no sleep during the night. The whole leg was considerably swollen, œdematous, and tense; the thigh was also swollen, and on its inside were observed red lines extending from the wound to the groin; the lividity and gangrene were much increased; the skin for some distance around the wound was of a deep ash colour, and, beyond this, of a dusky red; and vesications were formed, containing a bloody-coloured serum. The whole wound was of a dark yellow gangrenous appearance, emitted a most offensive odour, and there was copious discharge of bloody sanies, mixed with air. The whole limb was cold, and he complained of numbness extending up the thigh. Lint dipped in the chloruret of soda was applied to the wound, and covered with an effervescing poultice. Brandy and ammonia were given at intervals. He sunk rapidly, suffering

no pain, and expired in the evening, the second day after the appearance of gangrene.

Examination twelve hours after Death.

A large portion of skin surrounding the wound has passed into a state of sphacelus, and air and bloody serum were effused into the subjacent cellular texture. The exposed fascia was of a dark ash colour, soft, and easily lacerable; the muscular texture was unaffected. The right iliac vein, vena cava inferior, and the right auricle and ventricle, were filled with fluid blood of a very black colour; the lining membrane of these veins and the right cavities of the heart, was of a deep crimson colour. The blood contained in the left cavities of the heart was free from air, and the lining membrane presented its natural colour. The liver was of a pale colour, soft, and easily torn; the other viscera were healthy. Two of the ribs on the right side were fractured.

SIR ANTHONY OYSTER.

To the Editor of THE LANCET.

SIR,—As a satisfactory reply would doubtless oblige many of your readers, I would solicit you to have the following inquiry inserted in some corner of your invaluable publication. In the last Number, Sir A. Carlisle proposes "the legal establishment of an equitable scale of fees," as he calls them; and speaking of physicians and surgeons, says, "payments for journeys to remain as they now stand."

Queries. Is this payment regulated by law, that it should continue as it now stands; if so, by what law? If not, by what regulations is the payment guided, whether in or out of London?

I am, Sir,
Your obedient servant,
T. H.

July 14, 1828.

BOOKS RECEIVED FOR REVIEW.

The Morbid Anatomy of the Bowels, Liver, and Stomach, illustrated by a series of Plates from Drawings after Nature, with explanatory Letter-press, and a Summary of the Symptoms of the Acute and Chronic Affections of the above-named Organs. By JOHN ARMSTRONG, M.D., Lecturer on the Principles and Practice of Physic, and consulting physician to the London Fever Hospital. Fascic. 1 and 11, 4to. pp. 69. Baldwin and Cradock, London.

Synoptical Table of Midwifery, showing the Management of Natural and Difficult Labours, their Consequences and Treatment. By H. H. GOODEVE and T. EVANS. Highley, London.

A Manual of Midwifery, for the use of Young Practitioners of both sexes. By W. MACLURE, Surgeon; Member of the Glasgow Faculty of Medicine. 12mo. pp. 34. Underwoods, London.

Preparing for the Press,

Vol. I. of the Principles and Practice of Physic. By JOHN MACKINTOSH, M.D., Lecturer on the Practice of Physic, Edinburgh.

Outlines of Comparative Anatomy, 1 vol. 8vo. By ROBERT E. GRANT, M.D., Professor of Comparative Anatomy in the London University.

TO CORRESPONDENTS.

Communications have been received from Mr. Harmsworth — Dr. Thompson — Dr. Maule — Mr. T. Williams — Mr. Price — R. S. T. — Inquirer — S. — On the Comparative Positions of the Medical Profession in France and England. — T. H. — O. P. — R. — A Regular Surgeon — Dr. T. Woodford, Taunton.

We have received the two guineas forwarded by Dr. Jephson, of Leamington for the "distressed medical gentleman." The list of subscribers will be continued in our next number. There are ten or twelve additional names.

Thanks to W. H. P.; we hope to hear from him again. The report shall be inserted in the next LANCET.

The verses of the "Satirist" were calculated for a few only of the profession in Dublin. Papers not inserted are invariably destroyed, unless accompanied with an especial request to the contrary.

Advertisements must be sent to the Publisher at the office.

J. W. M., Glasgow, is a valuable correspondent.

The "Stanzas" of β have much merit. Will the author favour us with his name, confidentially?

The first part of Dr. Mackintosh's paper on Intermittent Fever, shall be inserted at an early period.